

**THE  
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation  
INCORPORATING

**Railway Engineer • TRANSPORT • The Railway News**

**The Railway Times • Herapaths Railway Journal**

**RAILWAYS** • **ESTABLISHED 1835** • **RAILWAY RECORD.**

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## DIESEL RAILWAY TRACTION SUPPLEMENT

The May issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price 1s.

## DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 of 1940, and No. 359 of 1941

## TO CALLERS AND TELEPHONERS

Until further notice our office hours are:—

Mondays to Fridays - 9.30 a.m. till 5.0 p.m.

The office is closed on Saturdays

## Locomotive Fuel Difficulties

ONE of the many difficulties brought about by war conditions concerns locomotive fuel. We have already referred to experiments in the use of peat on the Irish railways, where the scarcity of coal may become acute, and we have mentioned the use of rushes in the Astrakhan area of the U.S.S.R., and maize in Argentina for the firing of locomotives. Even this country, despite its abundant sources of coal, has experienced troubles through the use of unaccustomed qualities of fuel on locomotives. Depots which have been used to ample supplies of particular classes of coal, such as Yorkshire coal, have had to accept Welsh coal for various reasons concerned with reducing the length of haulage and the necessity to find alternative outlets for closed foreign markets. Welsh coal, having a tendency to atomise in coaling plants, is apt to present difficulty in firing to long narrow fireboxes when the engine is running and the blast is strong, for its comparatively light mass tends to be deflected so as not to reach the front of the box. In such circumstances wide fireboxes show up to great advantage. Some of the varieties of Welsh coal, although of high calorific value, require a forced draught for their rapid combustion, and in a long narrow locomotive firebox do not give up their heat rapidly enough to produce the quantity of steam required. With shortage of steam late running is, of course, liable to develop, unless the engine possesses a considerable reserve of power over and above actual requirements.

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## Express Stops in Outer Suburbs

In the autumn of last year, when alerts, both by day and night, were frequent in the London area, the suggestion was made in an editorial note in the September 27 issue of THE RAILWAY GAZETTE that the railways might well consider the stopping of long-distance expresses to and from London at stations in outer London, to enable passengers to leave or join these trains without the added time—and added risk, when alerts were operative—of travelling to and from the terminus. The October 28 timetables showed that the L.M.S.R. thenceforward was stopping practically every up Western Division express at Watford, where connection is afforded with electric services covering a large area of north-west London, as well as certain of the down expresses from Euston. The Southern Railway soon followed suit, and the new summer timetables, reviewed on p. 530, show that the S.R. has gone even further than the L.M.S.R. by halting every Western Division express, both down and up, at Woking. The decision doubtless lay between Woking and Surbiton or Wimbledon, but whereas Wimbledon would have been more convenient and central for a large part of south-western London, Woking gives direct electric connections in the down direction to and from the Guildford and Aldershot area, as well as those in the up direction to stations between Woking and Wimbledon. The L.N.E.R. for a time stopped all its up expresses for King's Cross at Finsbury Park, but except for two late evening services, these stops are now made only if alerts are actually in progress; expresses on the Great Central main line, however, call at Harrow in each direction.

\* \* \*

## Making Conventions Useful

Some sound maxims for meetings and conventions of technical societies are found among a symposium of suggestions printed in the February issue of our American contemporary, the *Railway Mechanical Engineer*. One is that prospective participants should be made to understand, in the preparation of their papers, that what is of interest to an audience "is not the hidebound conventional viewpoint which everyone has been hearing for years, but new slants and radial perspectives," as the best stimulus to fruitful discussions. As to the latter, appreciation is expressed of the proceedings at a certain convention, "as they seemed to have a man ready to start each discussion," and things therefore went with a swing. The hesitancy, at large meetings, of some of those present who might contribute usefully, to walk up to the platform and face the audience, is met by the suggestion that portable microphones on long flexible leads might

be installed in different parts of the hall, and passed to members wishing to take part, so that they could speak from their places without embarrassment. The correspondence also stresses the valuable results of sending representative men of the right type to attend technical conventions. There they rub shoulders with men from other railways and districts, who have similar problems but look at them from different angles. "I have personally noticed," says one writer, "how men who have never attracted attention before blossom out with new ideas, and how quick they are to advocate improved practices which they have heard some co-worker from a distant railroad describe at the convention they attended."

\* \* \* \*

### First Published U.S.S.R. Financial Results

As the public has hitherto had no opportunity to learn anything about the financial and traffic results of the Soviet railway system, the first publication of an annual report for the year 1939 is of unusual interest. The following are some of the aggregate figures embracing the results of all the 48 divisional managements of the whole system:—

	Roubles
Goods traffic receipts ... ..	12,134,400,000
Passenger receipts ... ..	4,398,200,000
Parcels, etc., receipts ... ..	257,000,000
Miscellaneous receipts ... ..	267,900,000
<b>Total receipts ... ..</b>	<b>17,057,500,000</b>
Working expenses, goods ... ..	9,454,200,000
Working expenses, coaching ... ..	2,639,100,000
<b>Total working expenses ... ..</b>	<b>12,093,300,000</b>
<b>Net traffic earnings ... ..</b>	<b>4,964,200,000</b>

The operating ratio therefore worked out at 70·9 per cent. A single figure only is available for the year 1938, namely, the net profit which was 1,346,400,000 roubles, so that the increase in 1939 amounted to no less than 3,617,800,000 roubles. The proportions of the goods receipts attributable to various commodities are instructive; they were: general merchandise 27 per cent., coal 23 per cent., timber 12·1 per cent., oil products 8·7 per cent., cereals 8·6 per cent., building materials 7·9 per cent., iron and other metals 4·5 per cent., ores 1·3 per cent., firewood 1·3 per cent., and other classified freights 5·6 per cent. The total number of passengers carried in 1939 was 1,267,100,000.

\* \* \* \*

### The Burma-China Railway

The decision of the British Government to finance the construction of an extension of the Burma Railways from Lashio to the China frontier near Kunlong, and thus link up the railway systems of both countries, has as its first object the direct supply from America and Europe of rails, bridge steelwork, rolling stock, and other equipment to make possible the early completion of the Yunnan-Burma and Yunnan-Szechwan Railways. These two lines have a common point at Kunming, the capital of Yunnan, and are at present under rapid construction in so far as earthwork and masonry are concerned, but progress is held up for want of imported materials. As the Chinese capital, Chungking, is cut off from the outer world except for the Burma and Sinkiang Roads to the south-west and north-west respectively, it is of the utmost importance to the Chinese Government that these two railways should be completed at the earliest possible moment, so as to provide a more effective life line for the carriage of munitions and other war materials.

\* \* \* \*

### Commercial Aspect of Yunnan-Burma Railway

Though the war has now made the early completion of the Burma-China Railway obligatory, it should be realised that the Chinese Government intended to build railways (a) from Chuchow, on the Canton—Hankow line, to Kweiyang and Kunming, (b) from Kunming to Suifu and Chungking, and (c) from Kunming to the Burma frontier, before the present Sino-Japanese war was ever contemplated. They were, in fact, integral parts of the great railway construction programme planned about 1934 for the commercial development of China. The Kunming-Burma line was intended to open up Western Yunnan and provide a direct outlet for its

mineral wealth to the West, *via* Rangoon, if the Government of Burma could be persuaded to extend its system to the frontier, and so complete the through route. Even with China at war with Japan and forced to import munitions *via* Rangoon, and the Burma Road, the projected railway extension was viewed askance by Burma, as it could foresee no immediate return on the capital outlay required. The world war has now altered all this and American influence has doubtless been thrown into the scales, as, like ourselves, the United States are anxious to assist China in every way and at the earliest possible moment. When peace is restored Burma will undoubtedly reap a rich harvest from this trunk line from China feeding Rangoon.

\* \* \* \*

### Paraguayan-Brazil Connections

At present there is only one railway in Paraguay, the British-owned Paraguay Central line. In June, 1939, however, a far-reaching agreement between the Brazilian and Paraguayan Governments was signed, and contains in its first four articles an important railway construction programme including the linking up of Paraguayan centres of production with the Brazilian railway system, thus providing them with an outlet to the Atlantic. In accordance with this agreement, the Brazilian Government agrees to construct a railway from Campo Grande to Ponta Pora, with a branch line to Bella Vista, and the Paraguayan Government agrees to extend the Concepcion—Horqueta line to Pedro Juan Caballero, on the Paraguayan side of the frontier opposite Ponta Pora, and build a branch to Bella Vista. The Brazilian Government is, moreover, to build a line from Rolandia, on the São Paulo-Paraná Railway (under construction) to Guayra, which the Paraguayan Government will connect with Asuncion by rail. Engineers of both countries are to collaborate in the carrying out of the surveys for these various lines, and their respective Governments are jointly to study the survey reports, with a view to construction of both international connections as early as possible.

\* \* \* \*

### Competitive Rates in U.S.A.

By the U.S.A. Motor Carrier Act of 1935 the Interstate Commerce Commission, in the exercise of its power to prescribe just and reasonable rates for common carriers, is required to give due consideration, among other factors to the "inherent advantages of transportation" by such carriers. This enables the commission to fix the maximum, minimum, or going rate. In a leading case the commission, under the jurisdiction granted to it by the 1935 Act, sanctioned minimum railway rates for the transport of petroleum and petroleum products from California to Arizona. Six of the principal competing road transport carriers who objected to these minimum rates, admitted that their costs were substantially higher than those of the railways concerned. In effect, they requested the commission to order these minimum rates to be increased to a level which would permit the road transport operators to continue to participate in the traffic and earn a profit. As the costs of conducting this traffic by rail were proved to be well below the rail rates actually charged, the commission decided to give effect to the inherent advantages of rail transport by sanctioning these rates. Further jurisdiction over carriers' rates, including those by waterway, has been given by the Transportation Act, 1940, which was signed by the President in September last. Notwithstanding this new regulatory legislation there appears still to be too much wasteful competition.

\* \* \* \*

### U.S.A. Level Crossing Fatalities in 1940

Fatalities resulting from accidents at road and rail level crossings in the U.S.A. during 1940 totalled 1,814, according to complete reports for the year received by the Safety Section of the Association of American Railroads. Except in 1937, when there were 1,875, the number of such fatalities was greater in 1940 than in any year since 1930. The total of fatalities in 1940 showed an increase of 416 compared with 1939 and of 297 compared with 1938. Persons injured in

level crossing accidents in 1940 totalled 4,656, an increase of 657 compared with 1939, and of 638 compared with 1938. In 1937 there were 5,136 persons injured in such accidents. According to Mr. D. H. Beatty, Chairman of the Safety Section of the Association of American Railroads, the increase in the number of fatalities due to level crossing accidents in 1940 resulted largely from the fact that more trains and motors were in operation. Approximately 80 per cent. of the level crossing accidents involved motorists at crossings in the vicinity of their homes. Mr. Beatty has emphasised that, regardless of the familiarity motorists may have with such level crossings, every vigilance should be exercised to make certain that no train is approaching before they try to cross railway tracks.

\* \* \* \*

### High Boiler Pressures

The adoption of 280 lb. per sq. in. as the boiler pressure of the new Southern Railway Pacific locomotives is regarded by some as an indication that a new era has now begun, the culmination of which will be seen in the adoption on British railways of steam pressures up to 300 lb., or even higher, as a general practice in ordinary locomotive boilers for engines of the largest and most powerful classes. This may prove to be so, although the previous maximum of 250 lb. in normal practice had been for long considered the figure beyond which it was undesirable or even unnecessary to go. In France 280-290 lb. pressures have been common in some of the most powerful locomotives for several years past. In the forefront of any consideration of the subject is the question of boiler and particularly firebox maintenance, but with metallurgical advances and other improvements this does not present the difficulty which it might have done some few years back. The better all-round performance of a boiler carrying a high steam pressure, and the effect of the latter on the development of tractive force, are points of great value, and with the steps forward that have been made in cylinder and front-end design, together with improvements in superheating apparatus and its auxiliaries, locomotive boilers carrying pressures of 300 lb. per sq. in. may quite possibly become usual in the not far distant future.

\* \* \* \*

### Modernising Old Locomotives

News that the Illinois Central Railroad of the U.S.A. is about to spend \$4,500,000 in the modernisation of 155 locomotives—84 of the 2-10-2 type, 31 of the 2-8-4, 25 of the 2-8-2, and 15 of the 2-10-0—directs attention to a profitable line of locomotive activity which might offer possibilities in Great Britain, especially at such a time as the present, when material for entirely new construction is difficult to obtain. A certain amount of locomotive rebuilding has taken place in this country at different times, but this has generally entailed no more than reboiling, some attention to valve-setting, possibly new cylinders, the addition of superheating, and modified exhaust arrangements, either singly or in combination. Where a more complete modernisation has taken place, it has seldom extended to more than one or two experimental locomotives of any given type. Yet the now historic Chapelon researches on the former Paris-Orleans Railway of France showed how complete a transformation of the power and efficiency of older locomotives could be brought about as a result of patient research; and the effect of the Chapelon experiments, and others of a similar kind which they provoked on neighbouring railways, was that for a matter of years practically no new locomotives were built for use in France, the increment of power obtained by these rebuildings being sufficient to meet all French traffic demands at that time. Indeed, the drawbar horsepower developed by the Paris-Orleans "4700" class 4-8-0, rebuilt on Chapelon lines from a previous Pacific design, created some new records proportionately to the dimensions and weight of the locomotive concerned. Now that wholesale scrapping of earlier British locomotives has been arrested by war conditions, the claims of modernisation might well receive further consideration.

### Ministry of Wartime Communications

FOR the fifteenth time since the Ministry of Transport was established in 1919 a new minister has been appointed. Lt.-Colonel J. T. C. Moore-Brabazon ably maintained the tradition of his office by occupying the position for less than six months. During that time he was afforded ample opportunity for becoming acquainted with the immensity and complexity of the task of the Ministry, but it could hardly be expected that in so fleeting a visit he could register great achievements. Two events during his tenure of office which may leave their mark are the formation of the Road Transport Pool under which the Ministry of Transport becomes in effect a road haulage operator, and the creation of the War Transport Council. The value of the latter is as yet unproved, although its usefulness may be increased by the further measure of reorganisation which is clearly portended on this occasion with the change of Minister. Lt.-Colonel Moore-Brabazon has become Minister of Aircraft Production, a position in which he may find interests more congenial to his personal predilections than those forms of transport which came within the scope of his former Ministry, for from his early days he has devoted considerable attention to aviation; more than that he has taken active part in it. To those little versed in the mysteries which surround the appointments of ministers it may, no doubt, be a good thing that on occasion tradition should be set aside and that a man with some knowledge of the products with which his Ministry deals should be appointed as Parliamentary head of the Department.

Mr. F. J. Leathers, who becomes the new Minister of Transport and is simultaneously elevated to the peerage, has been serving at the Ministry of Shipping as adviser on coal. There can be no question of his very wide and practical experience of coal shipment problems, although it is not so clear what qualifications he has for dealing with some of the major problems which today face the internal transport systems of the country. Moreover, Mr. Leathers is to combine with his new office of Minister of Transport that of Minister of Shipping, and it is intended that the two departments of Shipping and Transport shall forthwith be amalgamated for the purposes of the war. Details of this process are not yet known, but they are to be worked out as speedily as possible, and certain functions of the Ministry of Transport which are only remotely connected with communications will be, if it is thought desirable, transferred to the Board of Trade or other Government Departments. When the process of amalgamation is complete the combined Ministry will become the Ministry of Wartime Communications. Mr. Leathers, who is 57 years old, has had a successful business career which he has carved for himself from humble beginnings. There can be no doubt of his competence to deal with shipping matters, but it might well seem that at this period of the war with its ever increasing calls upon transport of all kinds, and with the growing importance which must attach to shipping on the one hand and on internal transport on the other, the control of either is sufficiently momentous. There will, no doubt, be those who will feel that there is a considerable element of risk in amalgamating the responsibilities of two such vital arms of our war effort. The successful prosecution of either by itself might well tax the powers of any individual; to make one man responsible for them both is attended by obvious dangers. The burden of the joint task might prove insupportable; or the successful conduct of one branch might be attended by neglect of another. Successfully to carry the weight of the two Ministries now to be merged into one would indeed require the services of a superman. Mr. Leathers may prove to be that, but the appointment is so bold as to engender fears which are no reflection upon the man. The decision to merge the Ministries was probably influenced by the criticism recently levelled by the Select Committee on National Expenditure, which directed attention to the peculiar position arising at the ports where incoming shipping immediately comes under the supervision of the Ministry of Transport. The formation of the new Ministry should effectively overcome the conflict of responsibility at this point; but it is unlikely that solution of the numerous smaller prob-



lems of the two Ministries will be made easier by further centralisation. There will be criticism of the fact that the new Minister will not take his place in the House of Commons and thus not be available in person to explain and answer for the policy and activities of his dual department. Mr. Leathers's inexperience in public life has been advanced as one reason why it should be thought better that shipping and transport should be represented in the Commons by the Parliamentary Secretary, Colonel J. J. Llewellyn, but it is perhaps a pity that the Minister himself should not be available in the House of Commons.

As to the reorganisation which will be necessitated by the merging of the two Departments, little is yet known. The Minister of Transport in the past has been responsible in the House of Commons for electricity matters and it would appear likely that under the new arrangements the electricity section will be transferred to the Board of Trade. Sir Cyril Hurcomb, Chairman of the Electricity Commissioners, who was formerly Permanent Secretary at the Ministry of Transport, is now Director-General at the Ministry of Shipping, and in some quarters it is thought likely that he may return to the Ministry of Transport in some new capacity. It is possible, of course, that the new Ministry of Wartime Communications will be concerned largely with the operational side of transport and that such functions as the safety provisions for railways and the licensing of road vehicles will go to the Board of Trade. There is good ground for the view that the work of the railway inspectorate could better be performed from a department other than that which is directly concerned with the operational control of the railway system. It is worth noting that the Government of India decided, in creating a railway inspectorate, to place it under the Department of Communications and independent of the Railway Authority. This was done to relieve inspectors of any possible embarrassment in criticising the Department under which they are employed, and therefore to enhance the value of their reports. In view of the control now exercised over the main-line railways by the Ministry of Transport and the possibility of some even greater interest at a later stage, it might well be advisable for the general work of the railway inspectors to be removed to an independent body such as the Board of Trade. In the case of shipping, safety measures were dealt with at the Board of Trade until fairly recently when the officers responsible for this work were transferred to the Ministry of Shipping. Whether these officers will remain an integral part of the new Ministry of Wartime Communications is not announced. It may be recalled that when the Ministry of Transport was formed it was intended that it should be designated the Ministry of Ways & Communications, and that it should take within its scope all forms of communication. Its title was changed during the passage of the Bill through Parliament.

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### Gresley Locomotive Records

THE death of Sir Nigel Gresley recalls the fact that locomotives of his design have been responsible, in all probability, for a more extensive and varied collection of records than those of any other British designer. Back in 1922 the emergence from Doncaster of his first Pacific locomotive, at a time when trainloads of 350 to 400 tons were regarded as heavy in express passenger operation in this country, was accompanied by his declaration that the new design was intended to haul 600-ton trains; and the claim was soon demonstrated by the working of a 610-ton test load from King's Cross to Grantham in 122 min. for the 105.5 miles—then the standard schedule of the Flying Scotsman. By 1938 the introduction of the latest Flying Scotsman stock had increased the minimum tare weight of that train to 503 tons, and gross loads of 600 tons, which had now to be worked daily to Grantham in 110 min., and from Grantham to King's Cross in 105 min., at an average of precisely 60 m.p.h., had become a common task for the streamlined successors of the original Gresley Pacific. But even the designer probably never foresaw some of the passenger trainloads that his Pacifics would be called upon to handle in war conditions, frequently exceeding 700 tare tons, and culminat-

ing in the 25-coach load of 750 tons tare and 825 to 840 tons gross hauled by the "A4" Pacific *Silver Link* out of King's Cross on the 1 p.m. express on April 5, 1939, with a loss on schedule of only 15 min. on the 268½-mile run to Newcastle. That the double-chimney Pacific *Capercaillie* has been able to work a 730-ton train over a 25-mile level stretch of line at an average of 75.9 m.p.h. is a further tribute to the exceptional powers of modern Gresley locomotives. Another heavy load performance of note signalled the completion of the first Gresley 2-8-2 passenger locomotive, No. 2001, *Cock o' the North*, which worked a 650-ton test train over Stoke summit at 56½ m.p.h., having run the 11.5 miles from Essendine to the top, largely at 1 in 200 and 1 in 178 up, in the remarkable time, with this load, of 11 min. 38 sec.

It is, however, in the realm of high-speed achievement in Great Britain that the name of Gresley has become most famous. The experimental run of the "A1" Pacific *Flying Scotsman* from King's Cross to Leeds and back on November 30, 1934, when the engine went over Stoke summit at 81½ m.p.h. with a train of 147 tons, and made 250 miles of the round journey at an average gait of 80 m.p.h., and, still more, the exploit of "A3" Pacific *Papyrus* on March 5, 1935, in sustaining an 80 m.p.h. average over 300 miles of a journey from London to Newcastle and back with a 217-ton train, reaching a maximum of 108 m.p.h., were some preparations for what was to happen in the following autumn. Few, however, could have anticipated the record performance of the streamlined Pacific *Silver Link* on her first public appearance on September 27, 1935. Barely three weeks out of the shops, and with 230 tons of train behind the tender, the 4-6-2 succeeded in covering 25 miles of line at between 100 and 112½ m.p.h., 43 miles continuously at an average of 100 m.p.h., and 70 miles at an average of 91.8 m.p.h. Nothing like this had ever previously been approached in Great Britain, and since that day the 43 miles at a three-figure average has until quite recently remained a world record for steam haulage. It is only within the last year that the supremacy has passed to the Hiawatha 4-6-4 locomotives of the Chicago, Milwaukee, St. Paul & Pacific Railroad of the U.S.A., which require daily to travel at 100 m.p.h., and one of which has been timed to cover a stretch of 62½ miles between Milwaukee and Chicago at an average of just over 100 m.p.h. A further matter of considerable note is that after the trial run with *Silver Link* which has just been referred to, the engine went into regular service three days later with the newly-instituted Silver Jubilee streamliner, and worked that train singlehanded for a fortnight, covering 536 miles daily of which 464 miles were scheduled at a running average of 70.4 m.p.h., a fine tribute both to Gresley's design and to Doncaster building.

The three L.N.E.R. streamlined services worked with Gresley's "A4" Pacifics—the Silver Jubilee, Coronation, and West Riding Limited—were the only British trains in operation on which time could not be kept without sustained 90 m.p.h. travel. From time to time speeds up to and exceeding 100 m.p.h. were reached in ordinary service; but it was on the brake trials of July 3, 1938, that the eminent designer had the satisfaction of witnessing a record with one of his locomotives which is likely to remain unchallenged for a long time to come in Great Britain. With a 240-ton train, the engine *Mallard*, having the advantage over the previous record-breaking "A4" Pacifics of Kylchap exhaust and a double chimney, covered five miles at an average of 120.4 m.p.h., kept above the 120 level for three miles, and for a very short distance reached 126 m.p.h. So far as is known, this enormous speed still remained unbeaten with steam in any other country in the world. One of Gresley's most endearing characteristics was the almost boyish zest with which he embarked upon all these speed trials; armed with a specially-made chronograph of vast dimensions, for speed-recording purposes, he would yield little in his interest in the proceedings to the most pronounced speed enthusiasts on the trains. As for the London & North Eastern management, for many years it has had the assurance of knowing that any proposal for exploiting the publicity value and public convenience of high speed would find in Gresley wholehearted support; and what he has made possible in this direction by the excellence of his designs will prove one of his most enduring memorials.



## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### Sir Nigel Gresley

Koyama, West Cliff Road,  
Bournemouth, April 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was greatly shocked to see the announcement of the death of Sir Nigel Gresley. The splendid account of his railway experience in THE RAILWAY GAZETTE I have read with great interest, having known him for many years, dating back from the time he joined the Lancashire & Yorkshire Railway Company under the late Sir John Aspinall at Newton Heath, Manchester. He paid many visits to see me at Gorton during my 23 years on the Great Central Railway, and was greatly interested in any new tank locomotives and express tender engines of my design, and on one occasion he made enquiries respecting the locomotive I designed with 3-cylinder cranks set at 120 degrees to avoid any dead centre, which was more suitable for propelling trains up the hump at Wath concentration sidings. Beyer Peacock & Company constructed four of these engines and, as they informed me, these engines with 3 cylinders would be the first of their kind in this country, they were determined to obtain the order and quoted the lowest price compared with their competitors. Later on they presented a large sectional drawing beautifully shaded, to the directors of my company, which was placed in the board room at Marylebone station. It remained there long after the grouping of the railways.

Later on, when I designed and constructed the large modern carriage works at Dukinfield, he was greatly interested, and I then formed my opinion of his great ambition and ability to make progress on railways. Apart from this, we were always great friends and discussed many problems in engineering, and superheated steam to a high temperature was prominent in his mind. After many experiments he made when he became Chief Mechanical Engineer of the L.N.E.R. he finally decided that the Robinson superheater was the best, and continued to adopt this on all his locomotives which, he informed me, gave the highest superheated steam and no comparison with the German Schmidt in cost and maintenance.

I was invited to go on the run from King's Cross to Grantham—a special non-stop—when the speed of 112 m.p.h. was attained, and on this occasion one of the staff travelling on the engine informed me the pyrometer registered 700° of superheated steam and Gresley attributed the success largely to this high temperature.

It is very gratifying to me to know I was instrumental in recommending Gresley to his position as Chief Mechanical Engineer on the London & North Eastern Railway. It came about when the Chairman, Lord Faringdon, and Mr. Whitelaw, were considering the chief officers of the various departments. They sent for me and to my surprise offered the position to me, which I considered was paying me a very great compliment, at my age, which was then 65, and in the usual order of things, due for retirement. I thanked them and declined the position, explaining my reasons. However, they would not agree, asked me to "sleep on it" and see them the next morning. On the same day, when sitting in the lounge of the Great Central hotel after dinner, my old friend Gresley came to see me and informed me that he had heard on the best authority I was going to be appointed Chief and hoped I would accept him as my assistant. I found myself rather in an invidious position and declined to discuss the question, but I put him at ease, intending that, in the event of my appointment, I would certainly agree to him as my assistant. Gresley then left me apparently quite happy.

Now for the final interview. I advised the Chairman to appoint a much younger man. I came to the conclusion that to organise four railways into one great railway would take many years to accomplish, to my liking; hence my recommendation to appoint a much younger man. They were disappointed at my decision and asked me if I would *privately*

recommend a suitable man. "Yes," I replied, and strongly advised the appointment to be given to Mr. Gresley, who was the right age. He was sent for and accepted and I am pleased that I have been spared to know of his success and hope his successor, whoever he may be, will follow in his footsteps.

Yours faithfully,  
JNO. G. ROBINSON

### Welding of Tyres and Axles

Williams Deacon's Bank Chambers,  
Church Street, Sheffield  
May 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—We desire to make reference to the article in your issue of April 11, 1941, under the heading "Automatic Arc Welding of Railway Wheel Tyres."

Under date September 27, 1933, the British Makers of Tyres & Axles addressed you at some length on this subject of the building up by welding of tyres and axles and we are now directed to repeat the indication then given that the British Makers of Tyres & Axles will not hold themselves responsible, nor accept any liability for the failure or fracture of any tyres (or axles) to which such welding has been applied.

We are,

Yours faithfully,  
For and on behalf of The British Makers of Tyres & Axles  
PEAT, MARWICK, MITCHELL & CO.

[This letter was published in THE RAILWAY GAZETTE of October 6, 1933, at page 471.—ED., R.G.]

### London's War Weapons Week

The Mansion House,  
London, E.C.4, May 7

TO ALL COMPANIES AND FIRMS AND INDIVIDUALS CARRYING ON BUSINESS IN THE CITY OF LONDON

If the time at my disposal and the strength of my hand permitted, I should like to write a personal letter to every citizen of London asking for co-operation in making London's War Weapons Week—commencing on May 17 and culminating on Empire Day, May 24—an outstanding success.

While all the Metropolitan Boroughs, the neighbouring Essex towns and the County of Middlesex are co-operating, the City of London is naturally expected to take the lead.

It is my belief that the citizens of London, its great commercial organisations, financial houses, exchanges, and markets, and all those whose interests are centred in our ancient City, will welcome this opportunity to show the world, by making a truly magnificent response to this effort, how determined we are that the war shall be pressed to a victorious conclusion, and that to this end our Sea, Land, and Air Forces shall be provided with all the weapons of war they need.

The different forms of War Bonds to which the public are invited to subscribe are the following:—

2½ per cent. National War Bonds	1946-48
3 per cent. Savings Bonds	1955-65
3 per cent. Defence Bonds	(Limited £1,000)

In addition, individuals may make deposits in the Post Office Savings Bank and the Trustee Savings Banks, and purchase National Savings Certificates.

I need hardly point out that investment in any of these provides the finest security Great Britain can offer, a good rate of interest, and the satisfaction of assisting the country in the war effort.

The eyes of friends and enemies alike are upon us; let us encourage the former and strike a deadly blow at the latter by making a record contribution to victory in London's War Weapons Week.

GEO. H. WILKINSON  
Lord Mayor

## PUBLICATIONS RECEIVED

**The World Almanac and Book of Facts, 1941.** Edited by E. Eastman Irvine. Fifty-sixth year of publication. New York, U.S.A.: *The New York World-Telegram*, 125, Barclay Street, New York City. 8½ in. × 5½ in. × 1½ in. 960 pp. No price stated.—This is one of the most comprehensive of annual works of reference, and it is hard to find any subject not usefully covered in its pages. Its up-to-dateness is indicated by the fact that the war chronology includes November 30, 1940, and some "occurrences during printing" cover the Italian invasion of Greece, and the British recapture of Sidi Barrani on December 11. One of the most useful features at the present time is the summarised descriptions of all the countries in the world, so that as each is dragged into the conflict, one can rapidly acquire enough knowledge at least to gain some respect among one's clique in the train to town. Naturally, the United States are dealt with in great detail, but outstanding features and statistics of the whole world are by no means neglected in consequence. It is gratifying that *THE RAILWAY GAZETTE* should be quoted as the source of a list of the fastest scheduled trains in the world. On the other hand, "Some Fast Railway

Runs in the U.S." include certain phenomenal speed records based apparently upon times and distances to the nearest minute or mile. This is odd in view of the meticulous accuracy with which speed records for motorcars, boats, and sporting events generally are recorded, to even two or three decimals of a second. The index of this most useful volume is thoroughly comprehensive.

**Map of Europe and the Mediterranean.** Edinburgh: John Bartholomew & Son Limited, The Geographical Institute, Duncan Street.—For three years past political boundaries on the European Continent have changed so frequently that ordinary atlases have long since ceased to convey the current position. This new production is therefore a very handy companion and, so far as boundaries are concerned, it seems to be correct to the minute. The map, which is to the scale of 1:5,300,000 is described as showing communications and political boundaries, however, and the delineation of the railways is far less correct. Very few railways are shown in Asiatic Turkey, for example, and the famous desert line in Egypt is shown terminating at Fuka instead of the railhead of Mersa Matrouh. Despite

such imperfections, the map is very good value at 2s.

**Advertise on the Rhodesia Railways.**—Under this title the Rhodesia Railways Limited has issued a pamphlet drawing attention to the excellent opportunities for outdoor advertising which are available at 70 stations and certain sidings on the transport arteries serving Northern and Southern Rhodesia and the Bechuanaland Protectorate. The railway system serves the gold, chrome, and asbestos mining industries, and the extensive tobacco, maize, and cattle farming community of Southern Rhodesia, and the prosperous copper mining areas in the north. There is also a rapidly expanding tourist traffic attracted by the Victoria Falls and Zimbabwe. The pamphlet gives details of tariffs and these indicate the small outlay necessary to obtain effective and continuous publicity in the Rhodesias and Bechuanaland.

**The First Relay Interlocking in South America.**—This single-sheet publication of the Westinghouse Brake & Signal Co. Ltd. describes briefly alterations to the signalling at the Central Station, Montevideo, to cover new siding connections. A relay interlocking panel was provided to enable levers hitherto working signals to be used for point operation.

## THE SCRAP HEAP

### Fifteen Ministers of Transport

Sir Eric Geddes	...	...	1919-1921
Viscount Peel	...	...	1921-1922
Earl of Crawford	...	...	1922
Sir John Baird	...	...	1922-1924
Harry Gosling	...	...	1924
Rt. Hon. Wilfred Ashley	...	...	1924-1929
Herbert Morrison	...	...	1929-1931
P. J. Pybus	...	...	1931-1933
Hon. Oliver Stanley	...	...	1933-1934
L. More Belisha	...	...	1934-1937
E. Leslie Burgin	...	...	1937-1939
Captain Euan Wallace	...	...	1939-1940
Sir John Reith	...	...	1940
Lt.-Colonel J. T. C. Moore-Brabazon	...	...	1940-1941
F. J. Leathers*	...	...	1941-

\* Minister of Shipping and Minister of Transport, pending the formation of the Ministry of War-time Communications.

### WORD "BILLION" (MEANING)

Sir Percy Hurd asked the Prime Minister whether he was aware of the confusion arising from differences of meaning of the word "billion" on the two sides of the Atlantic; and whether, in view of our new economic intimacy, he would confer with the Governments of the United States of America and Canada, so as to obtain uniformity.

The Prime Minister: The word "billion" has, it is true, different, or alternative meanings on the opposite sides of the Atlantic, but I do not think this has led to any difficulties in accounting. For all practical financial purposes a billion represents one thousand millions, especially in the case of anything we owe.

Sir P. Hurd: Is it not a fact that the confusion is likely to be increased

as a result of the new relations between Canada, the U.S.A., and ourselves?

The Prime Minister: I have noted the point.—*From Parliamentary Debates, House of Commons Official Report.*

In Great Britain a billion means a million millions (1,000,000,000,000), but in the U.S.A. it is equal to a thousand millions (1,000,000,000).

The Canadian Pacific Railway will this year again award two scholarships to its French-speaking apprentices or other employees below 21 years of age, or to minor sons of employees. One scholarship, for five years, will be in engineering at Ecole Polytechnique of the University of Montreal. The other will be free tuition at the Ecole des Hautes Etudes Commerciales for either three, four, or five years. Examinations for both scholarships will be held in September.

### MINIATURE RAILWAY FOR INDIAN PRINCES

H.H. the Gaekwar of Baroda has installed at a cost of Rs. 60,000 (£4,500) a miniature railway having about six miles of track, for carrying his children from the palace to their private school in the palace grounds. It has six stations, including flag stations, and the train consists of a steam locomotive and two carriages each about 12 ft.

long and 3 ft. wide. The Yuvraj (Crown Prince), who is 12 years of age, and his young brother and four sisters, together with one or two adults, are easily accommodated.

### MINISTRY OF INFORMATION STAFF

Captain Cunningham-Reid asked the Minister of Information how many of the 50 senior officers of the Ministry were previously heads of important publicity organisations, or managing directors or editors of any of our most widely-read national newspapers.

The Minister of Information (Mr. Duff Cooper): Nine, Sir.

Captain Cunningham-Reid: Why do we not obtain the services of more men better qualified for this important job?

Mr. Cooper: We have obtained the services of the people who, we think, are best qualified.—*From Parliamentary Debates, House of Commons Official Report.*

### DELAYED 50 YEARS

Just over 50 years after it was delivered, an address by Queen Victoria to Parliament has been printed by the *Alvinston Free Press*, of Ontario. The copy was sent to the weekly in 1890, but the package slipped down into a double wall at the local railway station and was forgotten. Recently, the station was demolished and the package was found, so the *Free Press* published it and the story of its delay.—*From the "World's Press News."*

## OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

### SOUTH AMERICA

#### River Plate Regional Economic Conference

This conference, at which Argentina, Uruguay, Brazil, Paraguay and Bolivia were represented, was held in Montevideo from January 27 to February 6. The agenda embraced no fewer than 52 projects, of which 26 were accepted. The work of discussion and co-ordination was divided amongst three committees, the first of which dealt with communications and transport, the second with economic and financial affairs, and the third with Customs questions.

Among the subjects dealt with under the first head were (a) parcels post traffic; (b) differential tariffs for land, river, and air transport; (c) the establishment in Buenos Aires of an office of economic information and study; (d) the construction of oil pipe lines; (e) tourist facilities and immigration regulations; (f) the development and operation of ferry-boat services; (g) the appointment of mixed technical committees to study the improvement of riverain navigation throughout the River Plate and tributary systems; and (h) the establishment of duty-free ports and zones therein.

In view of the successful results of the conference—the first of its kind to be held in South America—it is announced that Amazon and Pacific Coast Regional Conferences will be convened to continue and complete the initiative of the River Plate Republics.

#### Argentine-Bolivian Railway Connections

From the railway standpoint, the most important outcome of the conference was the signing of a treaty by the respective representatives of the Argentine and Bolivian Governments for the construction of the Yacuiba-Santa Cruz—Sucre railway to connect the two countries; the laying of an oil pipe line between Bermejo and Oran, and the boring and working of wells in the Sanandita oilfield. The signing of the treaty marks the conclusion of the negotiations for the execution of these projects which have been proceeding between the two republics since 1937, the penultimate stage of which was reached in April of last year when the Bolivian Foreign Minister, during a visit to Buenos Aires, signed the agreement on the basis of which the actual treaty has been drawn up. [These matters were referred to in our issues of June 14, 1940, and April 4, 1941—Ed., R.G.]

The construction of the railway will be carried out in sections by contract, and tenders for the execution of the work and the supply of materials and rolling stock will be called for simultaneously in La Paz and Buenos Aires by the Bolivian Government, the necessary funds being advanced by the Argentine Government for the first

section to Villa Montes. The tenders will be considered by a special board presided over by the Bolivian Minister of Public Works. A joint Argentine-Bolivian commission will be responsible for the control and supervision of the work, the quality of the materials, and financial disbursements.

If the output of the Bolivian oilfields warrants further railway construction, the Argentine Government will advance additional funds to the Bolivian Government for the construction of the remaining sections of the line, and for building the Balcarce-Tarija-Orán railway.

### UNITED STATES

#### Locomotive Inspection Report

The annual report of the Bureau of Locomotive Inspection, Interstate Commerce Commission, covering the year ended June 30, 1940, shows that 8 per cent. of the steam locomotives inspected were found to be defective, a decrease of 1 per cent. as compared with the previous year. On the other hand, the 164 accidents, resulting in 18 deaths and 225 injuries, which occurred in connection with steam locomotives, represent an increase of 12 accidents, involving three additional deaths and an increase of 61 in the number of persons injured as compared with the previous year.

Comparative statistics relating to the locomotives themselves showed that reports were filed for 44,274 engines during the year ended June 30, 1940, a decrease of 1,691 compared with the year before. Of the 102,164 locomotives inspected, 8,565 were found to be defective and 487 were ordered out of service. For the previous year, 105,606 steam locomotives were inspected, 9,099 were found defective and 468

were ordered out of service. In the year ended June 30, 1938, 11,050 of the 105,186 steam locomotives inspected were found to be defective and 679 were ordered out of service. The total number of defects found—and shown in the last three reports—were 32,677 in 1940, 33,490 in 1939, and 42,214 in 1938.

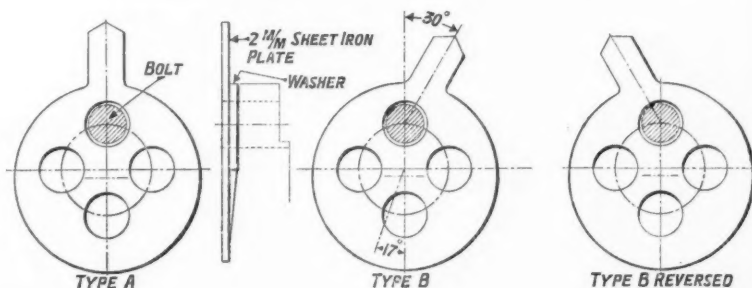
### SWEDEN

#### New Axlebox Service Indicators

Hitherto on the State Railways, marks have been placed on the underframes of wagons showing the month in which their axleboxes had to be refilled (every three months). Appreciable time has, however, been wasted by the examining staff in deciphering these marks. To save much of this time, an indicator has been devised, as described by Herr G. Bjuggren, of Gothenberg, in the November, 1940, issue of the *Nordisk Järnbanetidskrift*, and is shown in the illustrations below, in its two forms, types A and B, differing only in the position of the pointer portion.

Both types consist of a sheet-iron plate 2 mm. ( $\frac{1}{16}$  in.) thick, and have four holes by any one of which the indicator can be secured by an axlebox cover bolt. The principle of the device is that the pointer indicates the number of the month in the year for refilling, as if it were the hand of a clock, and is secured in the position required by putting the appropriate hole on to the bolt. Type A, therefore, indicates 12, 3, 6, 9 (December, March, June, and September) and type B indicates either 1, 4, 7, and 10 (January, April, July, October) or, with the indicator plate turned back to front, 2, 5, 8, 11 (February, May, August and November).

One of these indicators is fixed on each side of the vehicle, but the old marking is also retained in case the corresponding indicator should become detached. Not only does examination of the indicators save time, but it can be carried out from a greater distance away from the wagon, which is often an advantage.



Left: Type A indicator in the 12-o'clock position, showing that the axlebox must be refilled in the 12th month, December. By turning the indicator round through 90, 180 or 270 deg., and using the corresponding other bolt-holes, refilling in the third, sixth, or ninth month, March, June, or September, is indicated.

Centre: Type B indicator shown in the 1-o'clock, January, refilling position. By placing the other holes over the bolt, April, July, and October refillings may be indicated in turn.

Right: Type B indicator turned back-to-front and showing (11-o'clock) November refilling. Its other positions will indicate February, May or August refilling.



## CABLEWAYS IN ITALIAN EAST AFRICA

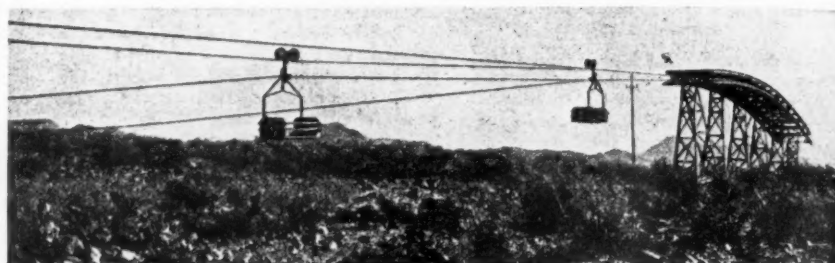
*The line between Massaua and Asmara is the longest in the world*

ITALY made much use of cableways in East Africa, apparently largely at the suggestion of Mussolini himself. The most important—and the longest yet constructed anywhere—is that between Massaua (Campo Marte) and Asmara (Godai), 71·8 km. (44·6 miles) with a branch 3·2 km. (2 miles) from Zaga, the first station out, to a stores depot at Moncullo.

The stations and distances on the main line of this cableway between Massaua (Campo Marte) and Asmara (Godai) are as follow:—

Station	Km.	Altitude in metres
Massaua (Campo Marte) ... ..	—	41
Zaga ... ..	6·2	55
Dogali ... ..	15·0	125
Mai Atal ... ..	23·7	194
Digidigta ... ..	31·0	443
Sabarguma ... ..	38·0	609
Ghinda ... ..	45·2	908
Embatkalla ... ..	50·0	1,361
Nefasit ... ..	57·2	1,680
Golei ... ..	62·5	1,906
Asmara (Godai) ... ..	71·8	2,340 (7,667 ft.)

The line thus connects the sea with the Eritrean highlands. It was constructed in two stages; the first section to be



*A portion of the Massaua-Asmara cableway*

where goods are unloaded for Decamerè, and there is extensive warehouse accommodation at Asmara. In the three years from the opening of the first section, some 106,890 tonnes were carried. Normally, the principal goods conveyed upwards are flour, sugar, cement, benzine, naphtha, oil, wines, and beer; and downwards cylinders of oxygen, empty bottles and drums, mineral waters, old tyres and other waste materials, and small timber. The line was built under the supervision of the Italian Public Works Department of Eritrea.

The next most important cableway is that at the Dante (Hordio) salt lagoons, 23·6 km. (14·69 miles) long, with 172



*Sketch map showing the Massaua-Asmara cableway in relation to the Eritrea Railway*

completed was that between Ghinda and Asmara, where the capacity of the railway was much less than below Ghinda, owing to the heavy gradients. The work was begun in June, 1935, and the portion between Ghinda and Nefasit was opened on June 29, 1936; that between Nefasit and Asmara was opened on August 23, 1936, completing the section.\* Meanwhile, early in 1936 work was begun on the remaining section and was carried out so rapidly that traffic seawards to Mai Atal was handled from the following January 3. The line was formally opened throughout to Massaua on March 18, 1937. There are two carrying cables 30 mm. (1·18 in.) dia. and one haulage cable 22 mm. (0·86 in.) dia., driven in sections from eight power stations equipped with Tosi diesel engines of 150 h.p. It was intended to change to electric drive as soon as power became available. There are 1,500 trucks, each capable of carrying 300 kg. (661 lb.), running 100 m. (328 ft.) apart, taking some 7 hr. to make the entire run, the cable speed being 2·75 m. (9 ft.) per second, or about 6·14 m.p.h. About 300 tonnes could be carried each way in a working day if all trucks were fully loaded. The rates were fixed to cover the working costs and charges, plus a small margin. The longest span between pylons is 900 m. (2,934 ft.) and the tallest pylons measure 30 m. (98 ft.). Some 3,900 tonnes of steelwork were used, and the line cost about 42,000,000 lire. The principal offices are at Nefasit, an important point

pylons, of which 107 are in the sea and carry the line to a special loading stage. This line is driven electrically, and has a capacity of 150 tonnes an hour. The remaining cableways were built primarily to serve military purposes and pass across rivers or deep defiles, and are of no great length. The principal lines are those over the Setit, Sua, Angereb, and Blue Nile rivers, and that leading up to the Uolcheft ridge. Several others have been planned to serve industrial purposes. Prior to the opening of the Massaua-Asmara line, the longest cableway in the world was presumably the Cordillera line in Argentina, 35 km. (21½ miles) long.

**LOCOMOTIVE COMPARISONS.**—Readers often ask us for information concerning the characteristics of British locomotives in order to settle points which have been the subject of debate. Many such inquiries can be answered by reference to "British Locomotive Types,"\*\* which contains outline drawings and gives the leading dimensions of all the principal locomotive types in use on British railways. An instance of the kind of inquiry often received concerned the maximum height above rail level of boiler centres. These are 9 ft. 6 in. on the L.M.S.R. and 9 ft. 4½ in. on the L.N.E.R.; maximum weight on an individual axle, 22 tons 10 cwt.; and heaviest tender in working order, 62 tons 8 cwt.

\* See THE RAILWAY GAZETTE of July 17, 1936 (page 121), and October 30, 1936 (page 694).

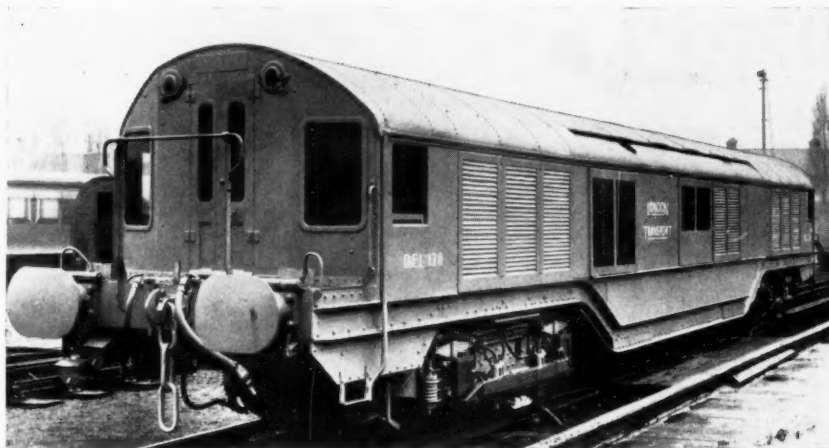
\*\* The Railway Publishing Co. Ltd., 33, Tothill Street, London, S.W. 1. Price 5s. net.

## DIESEL-LINE LOCOMOTIVE FOR LONDON TRANSPORT

*A locomotive for maintenance work has just been completed by the London Passenger Transport Board, deriving its power alternatively from a diesel-electric set or the current rail*

AT the present time ballast and material trains required for maintenance work on the surface lines of the London Passenger Transport Board are hauled by steam locomotives, many of which are of considerable age. To replace these as they wear out it is proposed to build diesel-line electric locomotives, that is, locomotives which may derive their power alternatively from the current rail or from a diesel engine. The first locomotive of this type has just been completed at the Acton works, and has been constructed largely from parts of two old Central Line motor coaches. Indeed, the only parts that had to be purchased by the board were the diesel engine and its electric generator and some switchgear. The passenger compartments of the old motor coaches were cut off, leaving the equipment compartments and drivers' cabs; a new centre portion, including the well of the underframe, was constructed, and with the ends of the old motor coaches formed the new vehicle.

The locomotive, No. D.E.L. 120, which may be controlled from either end, can haul trains of 600 tons on the level or 300 tons on a gradient of 1 in 34. It measures 57 ft. over buffers, has a maximum width of 8 ft. 2 in. and a height of 9 ft. 4½ in., and weighs in running order 62½ tons. The diesel engine, which is started by compressed air, is of the Petter superscavenge, airless injection, two-stroke cycle, cold starting type, and is capable of developing 506 b.h.p. at 675 r.p.m., and on overload 640 b.h.p. at 675 r.p.m. for seven minutes. The Brush generator is of the level compounded shunt type, and the armature is carried in one self-aligning roller bearing supported at the opposite end by



*New diesel-line locomotive, London Passenger Transport Board*

a Wellman-Bibby coupling. The generator is self-ventilated by means of a fan at the commutator end. The electrical equipment is arranged to operate from power obtained from the line at 600 volts, or, alternatively, from the diesel-generator set at 450 volts, and the changeover is effected by means of a drum type switch, which can be operated only when unlocked by means of the driver's reverser key.

A large part of the traction and control equipment is that originally in use on the two Central Line motor coaches from which the locomotive was constructed, with the addition of a number of special relays, main changeover switch, and a separate main circuit breaker to protect the generator. The original resistances have been regraded. The additional equipment and the modifications to the existing equipment were made by the British Thomson-Houston Co. Ltd.

## Left-hand Running in Switzerland

A writer in the *Bulletin of the Swiss Federal Railways* for December, 1940, gave some interesting notes on the origin of left-hand running in Switzerland—for some years now the recognised standard practice—although it does not agree with the rule of the highway there.

The first double line section in Switzerland was between Basle and Olten on the Swiss Central Railway, which adopted right-hand running. The Swiss North Eastern line, however, from Olten to Zurich, adopted the opposite rule, and this gave rise eventually to much inconvenience at junctions. Left-hand running was already standard in France and in one or two South German States, but the latter changed over to right-hand working in the eighties, to agree with Northern Germany. The Swiss Central system was, however, gradually changed to left-hand working, and the alteration was completed in 1895, at considerable cost.

In this way the left-hand rule became more or less standard, but the subject long gave rise to a great deal of discussion. The drivers were placed on the right, the old argument for left-hand running being frequently advanced, namely, that they could then easily see if anything was wrong with the other track. The signals were on the right on single, and on the left on double lines. In 1901 the locomotive drivers' association complained that the increase

in the size of the engines was interfering with the observation of the signals and asked that a change to right-hand working be considered. The technical officers' society also took the matter up, and in 1904 an energetic campaign was begun by one of the principal engineers, named Vogt, in favour of the change. It was proposed by some to meet the difficulty by transferring the driver to the left, as the French lines had decided to do, but this idea met with little support in Switzerland, the majority favouring a complete change of working.

Estimates were prepared for the latter, as well as for transferring the driver to the left, or moving all signals on double lines over to the right, but nothing came of it. Electric traction had made its appearance, and it was evident that in the end it would supplant steam everywhere. The cost of making any sort of change would necessarily be very high, and the war of 1914-19 caused all such matters to recede into the background. There is no difficulty in seeing signals from the electric trains and the question of the relative advantages of left- and right-hand running has now lost all practical interest. Only at junctions with systems using a different rule does any disadvantage arise, and at frontier stations stops are needed in any case, so that even there the difficulty is not serious.

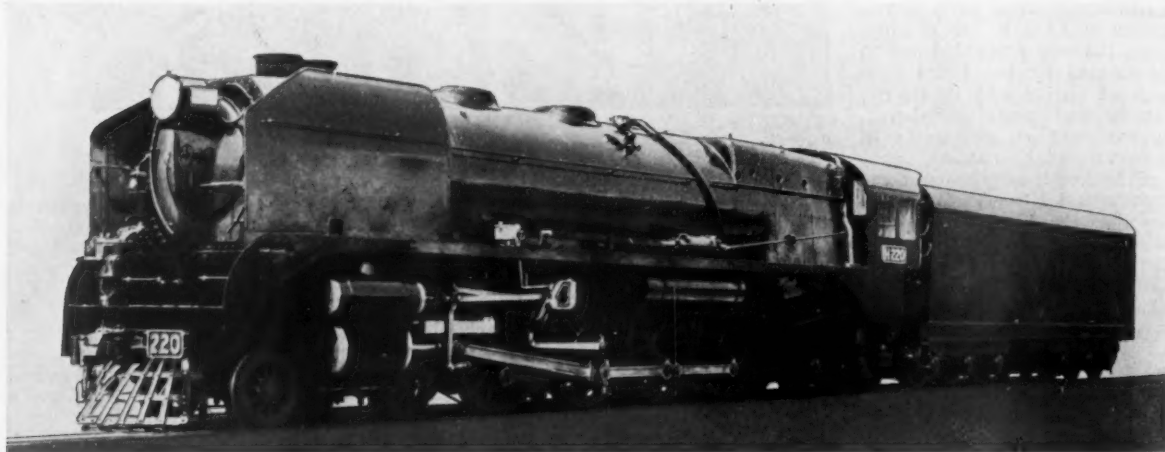
## NEW 4-8-4 TYPE LOCOMOTIVE, VICTORIAN GOVERNMENT RAILWAYS

*This 5 ft. 3 in. gauge engine, with its three 21½ in. by 28 in. cylinders and total weight of 260 tons, ranks as the largest locomotive in Australia*

THE first of a new class of heavy 4-8-4 type locomotives, designated Class "H," has recently been completed at the Newport workshops of the Victorian Government Railways. It has been designed to haul passenger trains of 550 tons weight behind the tender up a 1 in 48 grade at 20 m.p.h., and is intended for operating the Melbourne—Adelaide Overland express, which, in the course of its run, has to negotiate the famous Ingliston bank between Melbourne and Ballarat. The 1 in 48 grade begins beyond the wayside station of Rowsley, and is almost continuous for nearly ten miles to Ingliston, which is 1,500 ft. above sea level.

The design of the locomotive, which is for the 5 ft. 3 in. gauge, incorporates some outstanding features which are

between tube plates is 20 ft. 10½ in., and the boiler barrel has a diameter of 6 ft. 8½ in. outside at the front and 7 ft. 3 in. at the back end. The combustion chamber extends a distance of 2 ft. 8½ in. into the barrel, thus reducing the tube length. The firebox is equipped with two Nicholson thermic syphons and two 3 in. dia. arch tubes, and is fired by an M.B. Simplex mechanical stoker. The smokebox is 9 ft. 8 in. in length and 7 ft. 7 in. in diameter and incorporates twin blast pipes with radial ported nozzles. Two tangential steam dryers are located in the trailing dome and dry steam is fed by two internal steam pipes to the balanced regulator in the leading dome. The spark arrester is of the conventional Victorian Railways pattern. The combined total heating surface of 4,780 sq. ft. is greater than that of



*New 4-8-4 Class "H" locomotive, Victorian Railways*

unique in Victorian Railways practice, among them being double chimneys and domes, the use of mechanical stoking apparatus, and hydrostatic control of the tender brake, so that the pressure is automatically reduced as the water level falls. Centre buffer-couplers are fitted, side buffers being omitted. The main frames of the engine are of the bar type, each one weighing 4 tons 6 cwt. and having a length of 36 ft. 6 in. The frame of the four-wheel trailing bogie is of all welded construction, and the same method of fabrication has been used for the tender. The cylinders, three in number, are of cast steel, 21½ in. diameter by 28 in. stroke. Steam distribution to the outside cylinders is by Walschaerts valve motion, and to the inside valves by conjugated gear. The inside cylinder drives the leading coupled axle and the outside ones the second pair of coupled wheels. Roller bearings are applied to all axles of the engine and tender bogies, but the coupled axle boxes have plain bearings. Reversing is effected by Franklin Precision power-operated gear. A Wakefield 6-feed No. 7 mechanical lubricator of 8 pints capacity is located on the left-hand side of the engine. The airbrake equipment is of the A-6-ET system with pedestal-mounted brake valves. A 7-in. cross-compound air compressor is situated over the right-hand leading bogie wheel. Two Nathan high-capacity non-lifting injectors with top-feed device supply the boiler feedwater. The boiler is of all-steel construction and has a welded firebox of modified Belpaire type. The length

any other locomotive in service in Australia and is made up of 367 sq. ft. in the firebox (including the combustion chamber, arch tubes and thermic syphons), 3,613 sq. ft. in the tubes and flues, and 800 sq. ft. in the superheater elements. The grate has the large area of 68 sq. ft., and the working pressure is 220 lb. per sq. in.

The main particulars of the engine are as follow:—

Cylinders, dia. (3) ...	21½ in.
stroke ...	28 in.
Coupled wheel, dia. ...	5 ft. 7 in.
Wheelbase, rigid ...	17 ft. 6 in.
total ...	82 ft. 1 in.
Evaporative heating surface, tubes and flues ...	3,613 sq. ft.
firebox ...	367
total ...	3,980 sq. ft.
Superheating surface ...	800 sq. ft.
Firegrate area ...	68 sq. ft.
Boiler pressure ...	220 lb.
Tractive effort (at 85 per cent. boiler pressure) ...	55,000 lb.
Adhesion weight ...	92 tons 12 cwt.
Weight of engine in working order ...	146 tons 10 cwt.
Overall length ...	92 ft. 5½ in.
Water capacity of tender ...	14,000 gal.
Coal ...	9 tons
Weight ...	113 tons 11 cwt.
Total weight of engine and tender ...	260 tons 1 cwt.

The new locomotive, No. 220, is at present engaged in working freight trains on the main line between Melbourne and Albury, the most arduous portion of which is the first 60 miles to Seymour through the hills of the Great Divide.



## Beyer-Garratts in Service in Rhodesia



*One of the new passenger type 4-6-4 + 4-6-4 Beyer-Garratt locomotives hauling the Rhodesia Limited between Bulawayo and Salisbury, Rhodesia Railways*



*New passenger type 4-6-4 + 4-6-4 Beyer-Garratt locomotives outside Salisbury shed, Rhodesia Railways*

These 3 ft. 6 in. gauge locomotives (described in THE RAILWAY GAZETTE of August 9, 1940, p. 144), designed, built, and shipped during the war, have completed nearly a year's work, averaging nearly 6,000 miles a month per locomotive on passenger and goods work. The passenger load is 500 tons and the goods load 1,050 tons. The line is single and contains long grades of 1 in 80 (compensated), and 10-chain curves

## British Railways and the War—68

(See page 529)

*Right: Up line temporarily  
slewed into position on down  
line over damaged bridge to  
provide for up and down traffic  
during repairs to remainder of  
bridge*



*Left: Result of heavy bomb shattering abutment of three-line girder bridge.*

*Right: View below end of girder after removal of shattered abutment*



[Photos]

*Train crossing three-line girder bridge after completion of temporary repairs*

[Southern Railway]

# RAILWAY NEWS SECTION

## PERSONAL

### MINISTRY OF WARTIME COMMUNICATIONS

Mr. F. J. Leathers has been appointed Minister of Shipping and Minister of Transport.

Colonel J. J. Llewellyn, C.B.E., M.C., M.P., is to be Parliamentary Secretary, Ministry of Transport.

The King has also been pleased to approve that the dignity of a Barony of the United Kingdom be conferred upon Mr. Leathers and that Mr. Leathers and Colonel Llewellyn be sworn of His Majesty's Most Honourable Privy Council.

The amalgamation of the two Ministries of Shipping and Transport for the purposes of the war will be effected forthwith. The details of this process will be worked out as speedily as may be, in consultation with the new Minister; certain functions of the Ministry of Transport which are only remotely connected with communications will be, if desirable, transferred to the Board of Trade or other departments. When the process is complete the combined Ministry will become the Ministry of War-time Communications.

Colonel Llewellyn will represent both the Ministry of Transport and Ministry of Shipping in the House of Commons, pending the amalgamation of the two departments.

### L.M.S.R. LOCOMOTIVE WORKS SUPERINTENDENT, CREWE

Mr. F. A. Lemon, Works Superintendent at Crewe, is retiring, and will be succeeded by Mr. R. C. Bond, the company's acting Mechanical Engineer in Scotland.

Mr. E. G. Garstang, District Goods Manager, Bolton, L.M.S.R., has been appointed to a similar position at Manchester, in place of Mr. H. G. Humphreys, whose retirement at the end of April we recorded in our April 11 issue.

The L.N.E.R. announces that Mr. A. Paterson, Assistant to District Goods & Passenger Manager, Dundee, has been appointed Assistant to the Goods Manager, Scottish Area.

The Southern Railway announces that Mr. H. A. Short, Assistant Docks & Marine Manager, has been appointed as Acting Docks & Marine Manager during the period that Mr. R. P. Biddle occupies the position of Deputy Director of Ports under the Ministry of Transport.

Mr. Thomas Moll has been appointed Deputy Chairman of the Grand Union Canal Company.

Mr. A. P. Reynolds, who has been General Manager of the Dublin United Tramways Co. (1896) Ltd., since January, 1936, has been co-opted to the board of the company and appointed Managing Director. The name of the



[Elliot]

[G. Fry]

**Mr. F. J. Leathers**  
Appointed Minister of Transport and  
Minister of Shipping

company was changed in April to the Dublin United Transport Co. Ltd.

Mr. Alexander C. McCorquodale, Chairman of the *Liverpool Daily Post*, and a Director of McCorquodale & Co. Ltd., and of Henry Blacklock & Co. Ltd.—publisher of *Bradshaw*—whose death we recorded in our January 17 issue, has left estate valued at £274,014.

Mr. Thomas Norman Frederick Smith and Mr. Charles Walls have been elected to the board of directors of Thomas Smith & Sons (Rodley) Ltd. Mr. Smith is the son of Mr. Frederick H. Smith, the Joint Managing Director, and Mr. Walls has been for the past 20 years General Manager of the company.

Mr. Frederick James Leathers, who has been appointed Minister of Transport and Minister of Shipping, and who, when the two Ministries have been merged, will be Minister of Wartime Communications, was born in 1884. As a very young man he entered the offices of the Steamship Owners' Coal Association which in 1913 was merged into the business of William Cory & Sons Ltd., of which up to now he has been Managing Director and Deputy Chairman. Until his present ministerial appointment he was a director of over fifty companies, including:—

Atlantic Coaling Co. Ltd.  
Backworth Collieries Limited  
Bridge Wharf Co. Ltd.  
Cie. de Gestions et de Participation  
Coal Distributors (South Wales) Limited  
Cory & Clarke (Upper Thames) Limited  
Cory & Strick Limited  
Cory & Strick (Steamers) Limited  
Cory & Strick (Sudan) Limited  
Cory Colliers Limited  
Cory Lighterage Limited  
Cory-Mann George Corporation  
Corys (Builders' Merchants) Limited  
Cyprus Trading Corporation Limited  
Durban Navigation Collieries Limited  
English Coaling Co. Ltd.  
Fuel Shipping & Trading Co. Ltd.  
Greig & Co. Ltd.  
Hazlerigg & Burradon Coal Co. Ltd.  
Hull, Blyth & Co. Ltd.  
Llay Main Collieries Limited  
Mann, George & Co. Ltd.  
Mann, George & Co. (Beira) Ltd.  
Mann, George & Co. (Delagoa) Ltd.  
Mann, George & Co. (South Africa) Ltd.  
Mann George Depots Limited  
Mellonie & Goulder Limited  
Mercantile Lighterage Co. Ltd.  
Miller's (Canary Islands) Coaling Co. Ltd.  
N.V. Nederlandsche Steenkolen Handel-maatschappij  
Prosper Durand et Cie.  
R. & J. H. Rea Limited  
Rea Limited  
Robertson, Paterson & Co. Ltd.  
Rogers & Bright (South Wales) Limited  
Ruabon Coal & Coke Co. Ltd.  
Share Liability Co. (No. 2) Ltd.  
Sierra Leone Coaling Co. Ltd.  
Société Française Wm. Cory et Fils  
Société Marocaine Charbonnière et Maritime  
South American Railways Supply Co. Ltd.  
Steamship Owners' Coal Association Limited  
Steel & Raynes Limited  
Suez Canal Lighterage Co. Ltd.  
Thames Slipway Co. Ltd.  
Tunnel Asbestos Cement Co. Ltd.  
Tunnel Portland Cement Co. Ltd.  
Union Coal Co. (Gibraltar) Ltd.  
Joseph Walton & Co. Ltd.

Mr. Leathers has been serving until now at the Ministry of Shipping as Adviser on coal and in that capacity controlled coal bunkers all over the world and also shipments of coal generally. Mr. Leathers was a member of the committee formed in 1939 to advise the Lord Privy Seal on Air Raid Shelter Policy. He was one of the closest associates of the late Lord Inchcape and is a recognised authority on bunkering matters. In the City of London he enjoys a high reputation for shrewdness and ability but because he has shunned publicity he is little known outside his immediate business circles.

Mr. W. E. Rootes has been unanimously re-elected President of the Society of Motor Manufacturers & Traders for the third year in succession.



Mr. Grant Ellis Chessman, Assistant General Auditor of the Elgin, Joliet & Eastern Railway, has been appointed General Auditor, in succession to Mr. Percy L. Fisher, who retired on March 1.

#### CHICAGO GREAT WESTERN RAILWAY STAFF

With the formation of a new company, the Chicago Great Western Railway Company—on the termination of receivership of the properties of the Chicago Great Western Railroad Company—the following principal officers have been appointed by the new board:—

Mr. Patrick H. Joyce, President & Chairman of the Executive Committee. (This appointment has already been announced in our April 25 issue.)

Mr. Ralph M. Shaw, Chairman of the Board & General Counsel.

Mr. Oscar Townsend, Vice-President of Traffic.

Mr. H. W. Burtness, Vice-President of Transportation.

Mr. S. M. Golden, Vice-President of Maintenance of Way, Structures, Equipment, and Stores.

Mr. B. F. Parsons, Assistant to the President & Secretary.

Mr. W. H. Sievers, Controller.

Mr. A. A. Sieg, Treasurer; and

Mr. E. T. Reidy, Assistant Secretary.

Mr. Joyce was born in Chicago in 1897 and his first connection with railways was as a trainman. In 1909, however, he went into the railway supply business, and subsequently organised the Illinois Car & Manufacturing, Liberty Car & Equipment, and Liberty Car Wheel Companies, which in 1921 were merged under the name of the first. Mr. Joyce was President of the Illinois Car & Manufacturing concern until its absorption by the Standard Steel Car Company in 1928, when he became Vice-President, later elected President. In 1930 the firm was sold to the Pullman Company, and in the following year Mr. Joyce became President of the Chicago Great Western Railroad. In 1935 he was appointed trustee during the receivership of that railway, and this appointment terminated in February, 1941, when the reorganisation was completed and the new company was formed.

Mr. T. H. Gibson, Secretary of the Iron & Steel Control and of the British Iron & Steel Federation, has been appointed a Director of the British Iron & Steel Corporation Limited. Mr. Gibson, who has been Secretary of the corporation since its inception in 1936, has been succeeded by Mr. W. G. Tubman, Personal Assistant to Mr. J. M. Duncanson, Deputy Controller of Steel Supplies under the Ministry of Supply.

Sir Charles Langbridge Morgan, C.B.E., whose death we recorded in our November 15 issue, has left estate valued at £143,634. Sir Charles was a Director of the Southern Railway Company and was Chief Engineer of the London, Brighton, & South Coast Railway from 1896 to 1917. He has left £500 to the Institution of Civil Engineers Benevolent Fund.

Mr. Gilbert E. Chittenden, Catering Superintendent, South African Railways & Harbours, has been appointed Chief Stores Superintendent. Mr.



Mr. Gilbert E. Chittenden

Appointed Chief Stores Superintendent, South African Railways & Harbours

Chittenden was born in Klerksdorp, Transvaal, in 1892, and received his early education in England. He returned to South Africa to matriculate at Potchefstroom College, and passed his Intermediate B.A. examination at the Transvaal University College. He joined the railway service on the clerical side in 1911, and served in the Staff, Financial, and Parliamentary Sections of the General Manager's office at headquarters until 1923, except for a period when he served as a journalist in the Publicity Department and while he was on active service in East Africa and Europe during the 1914-1919 war. During his period of service in the General Manager's staff office, Mr. Chittenden acted as Secretary of the First Appeal Board. After two years' service, as assistant to Mr. C. M. Hoffe,

the present General Manager, in the office of the Minister of Railways & Harbours and the Railway Board, he was appointed, in 1925, as Director of Publicity in London, and held that position for ten years. In this post his artistic flair and journalistic ability were of considerable account in his successful efforts to establish South Africa's claims to notice as a premier travel land. While in London he was closely associated with Mr. Charles te Water, the former Union High Commissioner, in the work of re-building South Africa House. Before his return to South Africa in 1935 Mr. Chittenden made extensive tours of investigation into general transport practices in various European countries, Canada, and the United States of America, but with particular regard to railway catering methods. His subsequent appointment as Assistant Catering Manager was followed by advancement to Catering Manager. For the past eight months he has acted as Chief Stores Superintendent, to which position he was appointed with effect from January 1.

Mr. F. C. M. Wilter, Assistant Catering Manager, South African Railways & Harbours, has been appointed Catering Manager. Mr. Wilter was born in Cape Province and was educated at the Normal College, Cape Town. He joined the office staff of the General Manager of the old Cape Government Railways early in 1904. After being transferred to the Catering Department in 1909, he passed successively through the grades of Clerk, Catering Inspector, Chief Catering Inspector, District Manager (both on the Natal and Transvaal systems), and Assistant Catering Manager. During the 1914-1919 war he saw active service with the 12th South African Infantry in East Africa. Mr. Wilter was specially selected to proceed overseas in 1935 to conduct investigations into and make a practical study of catering and sleeping services on the British, Continental, Canadian, and American railway systems. The benefit derived from these investigations and the extensive knowledge and experience acquired have been of great value to the catering services of the South African Railways administration.

Mr. F. A. Lemon, Works Superintendent, Crewe, L.M.S.R., who, as recorded on the previous page is to retire, began his career as a premium apprentice and pupil under the late Mr. F. W. Webb, in the Crewe works of the London & North Western Railway. After passing through the various workshops and the drawing office, he was transferred to the Running Department, where he occupied various positions

from Assistant Foreman at a running shed to Assistant to the Running Superintendent, with a period of two and a half years superintending all departments of the Dundalk, Newry & Greenore Railway. In 1916 he was appointed Assistant Manager of Crewe works, and became Manager in 1920. In January, 1931, Mr. Lemon was appointed Works Superintendent, Crewe, London Midland & Scottish Railway, the position from which he is now retiring. In the course of his long association with Crewe works under eight separate Chief Mechanical Engineers, Mr. Lemon has been responsible in varying degrees, and for the last ten years in the chief position as Works Superintendent, for the construction of locomotives of increasing size and power, both for passenger and freight service. He has had charge of the building of Mr. Stanier's Pacific engines which involved, in some cases, having to deal with the special problems associated with the manufacture of the streamlined coverings, and in addition has had under his care the completion of large programmes for the construction of 4-6-0 express, 2-8-0 heavy freight, 4-6-0 mixed traffic, and numerous tank engines, representing in the aggregate a considerable output, amounting to approximately 500 engines, with a very high capital value. As superintendent of the Crewe works, the responsibility also rested upon him for works planning and maintenance of machinery, and, during his tenure of office, many improvements of an important kind have been effected in the shops, apart altogether from the far-reaching scheme carried out in 1927, when the plant and methods were reorganised on a large scale and the "belt" system of locomotive repair and erection introduced. As this occurred during Mr. Lemon's occupancy of a responsible position at Crewe, he naturally was called upon to assist in the complex nature of the work. One



**Mr. F. A. Lemon**

Works Superintendent, Crewe, L.M.S.R.,  
1931-1941

of Mr. Lemon's many admirable qualities is the keen interest he has taken in the work and progress of the Crewe apprentices and pupils. Known for his fairness, his relations with the workmen and staff generally were most happy. It is no mere trite remark to say that Mr. Lemon will be long remembered at Crewe, and greatly missed.

Mr. H. S. Owens has been appointed Registrar of the London & North Eastern Railway Company in succession to Mr. G. C. Ring, who retired on April 30, after 49 years of service with the Great Northern and the London & North Eastern Railway Companies. Mr. Owens joined the Registrar's Staff of the Great Northern Railway Company at King's Cross station in December, 1903, as a Junior Clerk. After service in the Royal Naval Volunteer Reserve during the 1914-19 war, he resumed his duties as Stock Appropriation & Staff Clerk and on January 1, 1923, was transferred to Liverpool Street station to take up duties with the new London & North Eastern Railway Company as Chief Stock Appropriation Clerk, in which capacity he served until December, 1935. On January 1, 1936, Mr. Owens was placed in charge of the Scottish Trust Section, Probate Department; was appointed Chief of the Dividend Section on July 1, 1937, and on May 1, 1938, took charge of the Transfer Section. He was appointed Chief Clerk to the Registrar on April 1, 1939.

Mr. H. A. Short, M.C., M.Inst.T., Assistant Docks & Marine Manager, Southern Railway, has been appointed Acting Docks & Marine Manager while Mr. R. P. Biddle is Deputy Ports Director, Ministry of Transport. Mr. Short was educated at Bournemouth school, and entered the service of the

former London & South Western Railway in 1913. He joined the Army at the outbreak of the war, and from February, 1915, to May, 1917, saw active service in France, where he held various appointments with the Suffolk Regiment and on the Staff of the 35th Infantry Brigade. He was awarded the Military Cross and was wounded during the battle of Arras. On leaving hospital he was appointed Adjutant of the Regimental Depot of the Suffolk Regiment, which appointment he held at the time of the armistice of 1918. Mr. Short was appointed Outdoor General Assistant, S.W.R., in 1919, and served in that capacity in the Goods and Superintendent of the Line's Departments, and later in the Commercial Department of the Southern Railway. He was transferred to the General Manager's personal staff in 1929 for special work in connection with the company's road powers, and in 1932 was appointed Road Transport Liaison Officer. During this period he represented the railway as a director on the boards of several of its associated road companies. In 1936 he became Assistant Docks & Marine Manager. Mr. Short holds the rank of Lt.-Colonel (Brevet Colonel), Regular Army Reserve of Officers, and was awarded the Military Cross while serving with the Suffolk Regiment during the last war. He has also been appointed by the Minister of Transport as Chairman of the Southampton Port Emergency Committee, *vice* Mr. R. P. Biddle.

Mr. James William Punter, well known as Technical Director & General Manager of Tyer & Co. Ltd., has just completed 60 years in railway signalling. At the age of 15 he entered the service of Saxby & Farmer (whose London works were then at Kilburn), in their branch offices and works at Molenbeek St. Jean, Brussels, where his father was



**Mr. H. S. Owens**

Appointed Registrar, London & North  
Eastern Railway



**Mr. H. A. Short, M.C.**

Appointed Acting Docks & Marine Manager,  
Southern Railway

then Assistant General Manager. His grandfather and an uncle were also in the employment of the firm. Returning to England with his father in 1887, he entered the Kilburn works and was occupied on outdoor installation work on the Great Eastern Railway and then on other lines in Great Britain, Russia, Poland, and Hungary. In 1893 Mr. Punter was appointed Inspector of Signals, Points, & Crossings to the old Madras Railway Company, and erected both mechanical and hydraulic installations during the four years he remained with the line, establishing a signal department, with the necessary offices and workshops. In 1897 he was again at the Kilburn works but two years later joined the London & North Western Railway, as District Signal Inspector and was subsequently appointed New

1931. During his year of office a very successful visit was paid to signalling installations on the French State Railways. He is also a member of the Signal Section of the Association of American Railroads, the London and Anglo-Egyptian Chambers of Commerce and, as representative of the National Union of Manufacturers, of the British Standards Institution. He joined the 18th Middlesex (Paddington) Rifles in 1889 and held Commissions in the Madras Railway Volunteers in 1894 and the Kent (Fortress) Royal Engineers (T.F.) in 1912. He served in France in the 1914-1919 war.

Mr. C. S. McLeod, Assistant to the Goods Manager (Scottish Area), L.N.E.R., who has succeeded Mr. Kellow as Assistant Goods Manager (Scottish

We regret to record the death, on May 2, of the Hon. Sir James Parr, G.C.M.G., who was High Commissioner in London for New Zealand from 1926 to 1929 and from 1934 to 1936.

Mr. J. Hampson, District Controller, Bletchley, London Midland & Scottish Railway, who as recorded in our April 18 issue is retiring, began his career with the L.N.W.R. at Springs Branch near Wigan. Later he went to Blackburn and Wigan where he was employed in the booking and parcels offices. Mr. Hampson subsequently entered the District Superintendent's office at Lime Street, Liverpool, and worked through all departments. After the amalgamation of the railways in 1923 he became an outdoor representa-



*Photo* [Lafayette]

**Mr. J. W. Punter**

Technical Director, Tyer & Co. Ltd., who has recently completed 60 years in railway signalling



**Mr. C. S. McLeod**

Appointed Goods Manager (Scottish Area), L.N.E.R.



**Mr. J. Hampson**

District Controller, Bletchley, L.M.S.R., 1930-1941

Works Inspector. He carried out extensive installations on the Nuneaton to Stafford, Chester to Holyhead, Chester to Birkenhead, and other widenings. In 1904 he re-joined Saxby & Farmer and went to Egypt for the firm to instal at Ismailia the first interlocking apparatus used on the Egyptian State Railways. Shortly afterwards he was appointed Deputy Chief of the Electrical & Signal Department and eventually Chief. During this time he organised the necessary workshops, offices, and stores, and carried out numerous important installations, including the electro-pneumatic one at Cairo station. For these services he received from the Khedive the insignia of the Fourth Class of the Imperial Order of the Osmanieh. Resigning from the Egyptian State Railways, he entered the service of Tyer & Co. Ltd. in 1909. Mr. Punter is a member of the principal technical institutions and joined the Institution of Railway Signal Engineers in 1913; he became a Member of Council in 1915, Vice-President in 1930, and President in

Area), was educated at Aberdeen Grammar School, Aberdeen University, and Cambridge, where he obtained distinction as a Wrangler in the Mathematical Tripos. He entered the service of the L.N.E.R. in 1927 as a Traffic Apprentice, and, after a period of training in various departments, was attached to the staff of the Chief General Manager at King's Cross from 1932 to 1935. In the latter year he was appointed Chief Assistant to the District Goods & Passenger Manager, Dundee. He returned to the Chief General Manager's Office in 1937 for a short period, and was engaged on special enquiry work in connection with Stores Organisation and the unification of the L.N.E.R. Superannuation Funds. Since 1938 he has been Assistant to the Goods Manager (Scottish Area).

Mr. Joseph W. Smith, Principal Assistant Engineer, Erie Railroad, has been appointed Chief Engineer, in succession to Mr. George S. Fanning, whose death we recorded in our February 21 issue.

tive dealing with control matters. In 1926 he was appointed Assistant District Controller at Lime Street, Liverpool, and in 1930 became District Controller at Bletchley.

#### INDIAN RAILWAY STAFF CHANGES

Mr. G. A. R. Trimming, Chief Controller of Standardisation, Railway Board, has been appointed Controller of Machinery and Tools in the Supply Department.

He has been succeeded as Chief Controller of Standardisation by Mr. E. Ingoldby, formerly Director of Mechanical Engineering, Railway Board.

Mr. G. de P. Leeper, Publicity and Advertising Superintendent, B.B. & C.I.R., has been transferred to the Army Department.

We regret to record the death, on April 8, in Perth, of Mr. Charles Lindsay, late Locomotive & Carriage Superintendent, Bombay, Baroda & Central India Railway Works, Ajmer, Rajputana.



## TRANSPORT SERVICES AND THE WAR—89

### *Double summer time—New main-line railway timetables—Indian railways and the war—Norwegian railway services—Czech engineers working for the Reichsbahn*

On Sunday last (May 4) double summer time was introduced, making legal time for the period until August 10 two hours in advance of Greenwich Mean Time. The change was made at 1 a.m. G.M.T. (2 a.m. ordinary summer time) when clocks were advanced to 3 p.m. The working day in agriculture, however, remains one hour in advance of G.M.T.

On May 4, also, the blackout period which heretofore has begun half-an-hour after sunset and ended half-an-hour before sunrise was shortened. In Scotland, and in the counties of Northumberland, Durham, and Cumberland, the blackout now begins one hour after sunset and ends one hour before sunrise. In the rest of England and Wales it begins three-quarters-of-an-hour after sunset and ends three-quarters-of-an-hour before sunrise. The longer twilight period of the northern area is the reason for the difference.

The times of special milk trains have been adjusted to conform with the agricultural working day. A small proportion of milk is sent by passenger trains, the timings of which cannot be altered, but the British railway companies have made all practicable arrangements to convey milk by later trains. Where this has not proved possible, farmers have had to send milk on the usual train (now working to double summer time) and therefore requiring loading one hour earlier in the agricultural working day.

#### Daylight Saving in the U.S.A.

At 2 a.m. on Sunday, April 27, daylight saving was introduced in 17 out of the 48 American States, including New York and New Jersey. It will continue until the last Sunday in September.

#### Repair of Air Raid Damage to Railways

In the great majority of instances where bombs explode on the railway the damage is confined to the permanent way, and, generally speaking, the lines affected are restored to traffic in a very few hours. On occasions, however, bridges, tunnels, or viaducts are damaged, necessitating the provision of temporary structures to carry the traffic while the permanent work is being restored. Rolled steel joists of I section have been used to span the gaps so made, and where abutments or piers have been rendered unsafe, they have been effectively replaced for the time being by steel scaffolding of ingenious design, which can be rapidly assembled on the Meccano principle to suit varying circumstances. A good deal of ingenuity and skill have been displayed in the employment of these and other devices for re-establishing traffic temporarily, pending the completion of permanent repairs, and one or two instances are given below as examples.

A bomb exploded behind the abutment of a multi-span bridge carrying eight tracks, and shattered it for the greater part of its length, leaving only two down lines fit for traffic. Within a few hours the next adjacent up line was slewed into the position of one of the down lines, and a pair of up and down tracks was thus made available. The other lines were successively supported on waybeams laid from the first pier of the bridge, which had not been damaged, to a sleeper grillage on the sound ground behind the broken abutment, involving a span of some 20 ft. The damaged abutment was not replaced, as it was possible to abandon use of the span of the bridge concerned. Instead, the first pier was strengthened to form a new abutment, and the embankment filled in solid thereto.

The abutment of a large-span lattice girder bridge carrying three tracks was partially demolished at one end and completely shattered by the explosion of a bomb immediately behind it. The collapse of the part of the abutment allowed the bridge to drop about a foot at one corner. Arches in the brick viaduct approaching the abutment were so badly dam-

aged as to be unfit to carry the load. Demolition and removal of the debris was immediately undertaken, steel trestles were erected under the dropped end of the bridge, which was jacked up to its proper level, and when this was done, the three tracks were reinstated on rolled steel joist waybeams. Traffic at reduced speed was permitted while permanent repairs were completed.

This type of damage, with variations, has been fairly common, and the general principle adopted in the repair work has been similar. The restoration of traffic has sometimes been a matter of as little as a day or two, but this depends largely on the number of lines carried on a viaduct or bridge. It has been found that where a viaduct has been widened without bonding the widened portion into the old portion, the damage as a rule has been confined to that section of viaduct on which the bomb has fallen, leaving the other intact. Brick arch viaducts which have been badly shattered are being repaired by strengthening the piers to form abutments at the ends beyond which damage does not extend, and the laying of precast reinforced concrete beams to carry ordinary ballasted track. These may be supported intermediately on new piers built to give convenient spans. In the meantime, of course, traffic at reduced speeds is temporarily carried on waybeams, supported where necessary on sectional steel trestling. (See illustration on p. 524.)

#### The New L.M.S.R. Timetable

A new timetable book has been published by the L.M.S.R. to operate for the summer season from May 5. It is in the now usual *Bradshaw* arrangement, but reference in this issue has been made much clearer than heretofore by printing the table numbers in large type at the outside top corner of every page. For the first time the full services over the Northern Counties Committee lines in Northern Ireland are included in the main L.M.S.R. book. Important changes are made in certain services in the down direction over the Western Division main line. The Manchester portion of the 8.30 a.m. from Euston is transferred to the Irish Mail, which leaves at 8.15 instead of 8.20 a.m. in order to make an additional call at Watford; Manchester (London Road) is reached at 12.42 instead of 12.57 p.m. The 8.30 a.m. down Liverpool express continues to carry the through Blackpool section, and the loads of the 8.15 and 8.30 trains are thereby equalised. The Perth section of the 10 a.m. down Glasgow express, which has been running independently for some time past, is now advertised at 10.5 a.m. from Euston, and reaches Perth at 8.46 instead of 8.16 p.m. The 10.20 a.m. to Manchester starts at 10.15 a.m. and the 10.30 a.m. Liverpool express at 10.35 a.m. (with unaltered arrival times), in order to sandwich in a new restaurant car express at 10.25 a.m. to Carlisle, calling only at Rugby to Crewe. This is to improve the running of the 10.40 a.m. down Carlisle semi-fast, a heavily-patronised train, the unpunctuality of which has reacted severely on the 1 p.m. down Glasgow express and other trains. The 10.25 a.m. has taken up from Crewe the previous 1.50 p.m. semi-fast working, and reaches Carlisle at 6.30 p.m., the previous scheduled arrival of the 10.40 a.m. The latter continues to run, with a restaurant car to Crewe, but is diverted to Blackpool. The 12.15 p.m. restaurant car express leaves at 12.5 p.m., and runs to Morecambe instead of Windermere; the through Barrow portion of this train is no longer detained at Carnforth for 2 hr., as at present, but reaches Barrow at 6.45 instead of 8.45 p.m. The 11.50 a.m. down Crewe semi-fast leaves Euston at 11.40 a.m. The Heysham boat train continues to leave London at 3 p.m. (to which hour of departure it was recently altered from 4.50), but the 4.35 p.m. Stranraer boat train (previously 6.15 p.m.), now leaves at 4.50 p.m.; both are slightly accelerated. The up Heysham boat express leaves

Heysham at 8.50 instead of 7.35 a.m., and reaches Euston at 2.50 instead of 1.15 p.m. Increased facilities for the handling of heavy week-end traffic are provided on Sundays by a 1.15 p.m. express from Euston to Holyhead (second portion of the 1.5 p.m. Blackpool), a relief at 3.45 p.m., calling only at Watford to Crewe, to the 4.5 p.m. down Blackpool, and reaching Blackpool Central at 9.39 instead of 10.3 p.m., and a new 7.45 a.m. restaurant car express up from Blackpool to Euston on Sundays. A restaurant car provides lunch and tea on the 1.15 p.m. down as far as Crewe, and dinner on the 3.45 p.m. between Crewe and Blackpool. A daily express from Blackpool Central at 8 a.m. to Crewe relieves the 7.55 a.m. London express, getting ahead of the latter by means of the direct line from Blackpool to Kirkham; on Mondays this is a through restaurant car express to Euston. On Mondays, Fridays, and Saturdays the Barrow portion of the 8.30 a.m. from Carlisle to Euston runs up independently from Preston, reaching Euston at 4 instead of 4.33 p.m. In Scotland the 11 a.m. and 3.45 p.m. from Inverness are being run through from Perth to Glasgow independently of the 1.10 and 5.30 p.m. from Aberdeen, and the 6.5 a.m. from Oban is similarly run from Stirling to Glasgow ahead of the 6.20 a.m. from Aberdeen. Despite all operating difficulties arising out of war conditions, since the improved wartime services were introduced at the end of 1939 and early in 1940 (after the first drastic emergency service of October, 1939), deceleration of long-distance trains has been negligible, and on the L.M.S.R. their number has been steadily increased in order to meet public demand.

#### Railway Services to High Barnet

The London Passenger Transport Board and the London & North Eastern Railway have issued a comprehensive statement concerning the railway services to High Barnet in which it is explained that the war has made it impossible to complete the full programme for the extension of electrified railway services and other improvements in North London, which was undertaken by London Transport and the L.N.E.R. as part of the £45,000,000 Programme of New Works. The full programme included (1) the provision for the first time of a direct tube service to the West End from High Barnet and Edgware, via Finchley Central, and (2) the provision of a through electric service between the High Barnet and Alexandra Palace lines and the City by electrifying the L.N.E.R. tracks from High Barnet and Alexandra Palace to Finsbury Park and linking these tracks with the London Transport Northern Line between Finsbury Park and Moorgate.

When war broke out, electrification had been extended as far as East Finchley, and the tube trains had been extended on July 9, 1939, to that point, over the new 2-mile link from Archway (Highgate). The engineering works on the High Barnet and Alexandra Palace lines, as well as the connecting link at Finsbury Park, had not been completed, however. It was nevertheless decided to complete the electrification of the High Barnet line, thus providing a new and convenient service to the West End never hitherto enjoyed by the population served by the High Barnet line, and the new service, over 5½ miles of newly-electrified L.N.E.R. tracks, began on April 14, 1940. In view of the paramount need for releasing labour and materials for essential war purposes, it became necessary to postpone the other engineering works, and, instead of being given a direct service of tube trains to the City via Finsbury Park as originally planned, High Barnet line passengers for the City had to change at East Finchley on to L.N.E.R. trains operating to King's Cross, Moorgate, and Broad Street. For City passengers, therefore, a change was involved, but for West End travellers a new through service became available for the first time.

A demand has recently arisen from City passengers for a through tube service from High Barnet to the City by way of Archway and Camden Town, although this is not so direct as the route via Finsbury Park. Under war conditions there is necessarily a limit to the services that can be provided, but arrangements were made for a limited number of tube trains to be run to and from the City as well as to the West End. The matter has now been reviewed again and the present

20-min. service of City trains in the peak hours is to be increased still further. Between 8.7 and 8.47 a.m. there will be a 10-min. service of through City trains from High Barnet, with an additional train at 9.7 a.m.; and between 5.20 and 6.10 p.m. there will be a 10-min. service of through trains from the City to High Barnet. These improvements will be introduced on May 19.

#### L.N.E.R. Summer Timetables

In order to cope with the heavy traffic over the East Coast Route, the 9.50 a.m. Newcastle relief from King's Cross, which for some time past has been running through when required to Edinburgh in advance of the Flying Scotsman, is now shown in the timetable as a daily restaurant car express from London to Edinburgh, reaching Waverley at 6.37 p.m. Similarly in the reverse direction the 12.55 p.m. express from Newcastle, which follows the up Flying Scotsman, starts from Edinburgh at 10.10 a.m., reaching London at 7.15 p.m. The 7.55 a.m. from Newcastle to King's Cross now starts from Darlington at 8.52 a.m., while the 8 a.m., starting at 8.5 a.m., omits the Darlington stop, the arrangement being designed to equalise the loading from Tyneside and Teesside between the two trains. The 11.30 p.m. Newcastle sleeping car express from King's Cross, which previously had a through portion for Edinburgh, now starts at 11.15 p.m., calls additionally at Peterborough, and runs to Newcastle only. Between Alnmouth and Berwick the stations at Longhoughton, Little Mill, Christon Bank, Newham, Lucker, Goswick, and Scremerston have been closed to passenger traffic, and a number of stopping trains between Newcastle, Alnmouth, and Berwick are withdrawn; other trains from Newcastle, Alnmouth, and Alnwick now start from and arrive at Manors North instead of Newcastle Central, and call at Benton. On the Newcastle and Carlisle line several workings in each direction between Haltwhistle and Carlisle are withdrawn, chiefly of fast services which duplicated stopping trains between these points. On the Great Northern Section the 12 (noon) restaurant car express from Leeds to King's Cross, with through coaches from Harrogate and Bradford, is altered to start at 1.10 p.m., calls additionally at Retford, Newark, and Peterborough, and reaches King's Cross at 5.55 instead of 4.20 p.m. The 5.15 p.m. from Leeds and the 1.5 p.m. from Edinburgh are shown to call daily at Finsbury Park at 9.50 and 10.13 p.m. respectively, to set down passengers. On the Great Eastern Section the 1.20 p.m. from Yarmouth to Ipswich starts at 12.30 p.m., and runs through from Ipswich to Liverpool Street independently of the 2.10 p.m. from Norwich, calling only at Colchester, and arriving at 3.57 instead of 5 p.m.; but the non-stop service from Ipswich to Liverpool Street at 8 p.m., in connection with the 6.10 p.m. from Yarmouth and the 6.45 p.m. from Norwich, is withdrawn, passengers arriving in London by semi-fast at 10.10 instead of 9.35 p.m. On the Great Central Section the local service between Sheffield and Barnsley has been withdrawn, and Meadow Hall, Grange Lane, Ecclesfield, Chapelton, Birdwell, and Dovecliffe stations have been closed to passenger traffic. On the Manchester, South Junction & Altrincham joint line, the electric service is now advertised as between Warwick Road and Altrincham only, with a connecting steam service between Manchester Central and Warwick Road. In addition to the new L.N.E.R. restaurant and buffet car services detailed in the March 28 issue of THE RAILWAY GAZETTE, all of which appear in the new timetable, a buffet car is attached to the 8.12 a.m. from Liverpool Street to Norwich and the 2.10 p.m. from Norwich to Liverpool Street.

#### The New Southern Railway Timetable

On the Southern Railway the principle of outer suburban stops to enable main-line trains to connect with the electric services is now established by stopping every Western Section express in both directions at Woking; this arrangement has been in force for some time past, but now appears in the timetable. With one exception all these additional stops are made without addition to overall journey times. The 8.30 a.m. from Padstow runs through daily from Exeter to Waterloo, calling only at Salisbury, Andover, and Woking, and reaching Waterloo at 4.15 p.m. instead of 5.13 p.m. as

hitherto; this is a restaurant car train. The 1.30 a.m. from Waterloo to Plymouth leaves at 1.10 a.m., and calls at Wimbledon to pick up at 1.40 a.m. The 5.30 from Waterloo to Bournemouth West omits its previous calls at Totton, Lyndhurst Road, Beaulieu Road, Sway, and Hinton Admiral, and is due at 8.44 instead of 9 p.m. On the Eastern Section the 5.15 p.m. Kent Coast express from Cannon Street, first stop Faversham, is altered to leave at 4.45 p.m., and no longer carries a Pullman car; the 5.45 p.m. down calls additionally at Chatham and Sittingbourne to Faversham and reaches Ramsgate at 8.6 instead of 7.56 p.m.; and the 5 p.m. from Cannon Street to Dover makes an additional stop at Tonbridge. Similarly the 7.10 a.m. express from Ramsgate to Cannon Street is booked to stop additionally at Sittingbourne and London Bridge, and to arrive at 9.27 instead of 9.23 a.m. On the Central Division the 5.45 p.m. from London Bridge to Hastings and Littlehampton and the 8.28, 9.28, and 11.15 p.m. from Victoria to Brighton are withdrawn, with certain corresponding up late evening trains; the 4.12 p.m. from London Bridge to Eastbourne is combined with the 4 p.m. Brighton train.

#### G.W.R. Timetable Changes

Very little alteration has been made in the Great Western services. The 3.55 p.m. buffet car express from Paddington to South Wales, non-stop to Newport, and reaching Cardiff at 6.58 p.m. and Swansea at 8.30 p.m., is now permanently incorporated in the timetable in place of the 7.55 p.m. down, which has been withdrawn. The 1.15 p.m. from Penzance to Paddington calls additionally at Reading, and is due at 9.25 instead of 9.15 p.m.; the 8.30 a.m. ex Plymouth reaches Paddington at 2 instead of 1.55 p.m. The 3.20 p.m. train from Paddington to Oxford is altered to start at 3.15 p.m. First class sleeping accommodation is now advertised on the 1.15 a.m. express from Paddington to Penzance, and the 12.0 midnight to Plymouth, in addition to the 9.25 p.m. Neyland and 12.55 a.m. Swansea services previously advertised. Daily train duplications which have operated practically from the beginning of the war, such as the Torbay portion of the 10.30 a.m. down and the Gloucester portion of the 1.55 p.m. down, still do not figure in the timetable.

#### "Mixed Summer Time" Train Services in Ireland

Owing to the adoption of extended summer time in Northern Ireland, whereas Eire retains only the one hour of ordinary summer time, certain alterations were made in the timetables of the G.S.R. and the G.N.R.(I.) from May 4. The opportunity was also taken to adjust some of the times of the trains which cross the border, in order more adequately to meet Customs requirements at frontier stations. The new G.N.R. timetables show the times in force in each area. Thus, one-hour summer time is shown for stations in Eire and two-hour summer time for those in Northern Ireland. The curious result is obtained of trains from Dublin to Belfast, 113 miles, apparently taking  $3\frac{1}{2}$  to 4 hours, whereas those in the reverse direction are booked to take as little as 100 min.

#### Indian Railways and the War

The serious limitation of coastal shipping around the coasts of India has diverted a large volume of traffic to the railways. Heavy increases in railborne coal for the ports of Bombay and Karachi and in Kathiawar have been recorded. Large quantities of wheat from the Punjab and Sind, usually railed to Karachi and shipped thence to Calcutta and other ports, have been diverted in the opposite direction by the all-rail route to Calcutta. Fortunately, because of greatly increased operating efficiency achieved of late on the larger main-line railways, and to their having spare locomotives on this account, they have had comparatively little difficulty in dealing with this heavy additional long-distance traffic.

The war has also thrown India upon its local resources in many directions and has stimulated indigenous industries and called for the manufacture of munitions and equipment to an extent hardly considered possible before the outbreak of hostilities. This has had the treble effect upon the railways of causing additional demands for haulage, whilst at

the same time staffs have been depleted and workshops occupied on account of war work. Large mileages of branch lines are also being dismantled and their permanent way and other equipment have often to be carried long distances to ports and other convenient spots ready for shipment to theatres of war.

Lessons learnt in the last war have again proved invaluable and have greatly expedited the general organisation of the railways on a war footing. This organisation is also greatly facilitated by the fact that in the North West Frontier area the railways are always ready to be mobilised at a moment's notice, and large numbers of the staff are, therefore, ready-trained, and some at least are available for transfer to other areas as required. A valuable nucleus for railway troops to accompany any expeditionary force that may be organised is also ready to hand.

#### Battle of Britain Peep-Show to Air War Fund

As a means of assisting the Great Indian Peninsula War Fund—which recently sent a substantial sum, subscribed by its employees, to the United Kingdom—the Chief Electrical Engineer of the railway has designed a "Battle of Britain" anna-in-the-slot machine. The dropping of an anna-piece into the slot causes a curtain to roll up revealing a peaceful homestead. A Nazi plane then appears on the horizon, drops a few bombs, causing damage. A Spitfire zooms to the attack and an aerial combat is vividly shown. The scene ends with the Spitfire putting several bursts of concentrated machine-gun fire into the Dornier, which crashes in flames. The machine was installed at Victoria terminus, Bombay, on January 20.

#### Norwegian Railway Services

The State Railways are suffering severely from shortage of coal under the German occupation, and reserves were expected to last only until the end of April. Fresh consignments are urgently needed from Germany, the only country able to supply Norway at present. To conserve coal for goods traffic, passenger services have been drastically curtailed since the beginning of the year, and the use of wood fuel is extending rapidly, with consequent deterioration of services. Goods locomotives are said to be overworked, as lack of coal reduces the number in daily use, and their crews are forced to remain on duty for longer hours, amounting in some cases to 100 hr. a week.

#### The Reichsbahn Engineering Office in Prague

Since June, 1939, the Reichsbahn has operated in Prague a central planning bureau to which all the Reichsbahn *Direktionen* may refer designs, estimates, and calculations for new works such as bridges, tunnels, buildings, station layouts, and bridge strengthenings. The office is manned by Czech engineers and staff, but under German leaders and with Germans in various key positions. The Czech members of the staff are paid by the administration of the former Czech railways, still operated as a separate system in the Bohemian-Moravian territories, and the total costs are refunded by the Reichsbahn *Direktionen*. The office was established in the days when there was a serious and growing shortage of engineering staff on the German railways owing to war preparations. On the other hand there was a surplus of Czech engineers, whose numbers were increased by those who moved from Sudeten territory and Slovakia. The employment of these Czechs in German divisional headquarters proved a failure, and the solution was sought in the establishment of the Prague office, where the Czechs are allowed some national modes of living and working, including the use of their own language. German railway practices are strictly adhered to, however, and the language question has caused some difficulties in departments staffed by younger men, as it appears that some of the older men still have a certain knowledge of Germanic methods retained from the days of the Austro-Hungarian Imperial days. The bureau has been extended from time to time, and it is reported that at present it is flooded with work, as the Germans have had to draw heavily on the members of their own staff for work in occupied countries.

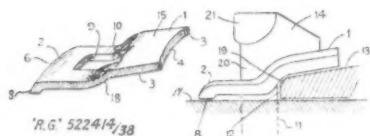


## ABSTRACTS OF RECENT PATENTS\*

## 522,414. Rail Spike Clips

Alfred Harold Bishop, of 7, Council House Street, Calcutta, Bengal, British India. (Application date: September 13, 1938.)

A resilient clip for use between the head of the spike and the foot of the rail consists of a lip 1 and a tail 2, the surface 3 being shaped to engage the

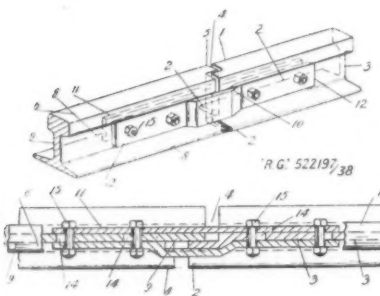


foot 13 of the rail. The lip 1 is cambered at 4, and the tail 2 is cambered slightly at 6 and has a stiffening pendant 8. For receiving the spike shank 11, the clip is formed with an aperture 9, the edge 10 of which lies above the edge 12 of the rail when the clip is in position. The overhanging portion 14 of the spike engages the portion 15 of the clip, and the tail 2 clears the sleeper 17 so that the surface 18 of the clip fits closely round the edge 19 of the foot of the rail. There is sufficient space 20 between the clip tail 2 and the spike projections 21 to permit the insertion of a claw-bar when it is desired to withdraw the spike.—(Accepted June 18, 1940.)

## 522,197. Rail Connecting

George Madsen Hoi, of Owens Creek, via Mackay, Queensland, Australia. (Application date: September 5, 1938.)

At the end of one rail of a rail joint, the head 1 and flange 2 on one side of the web 3 are recessed to form a gap 4 which receives an extension 5 of the



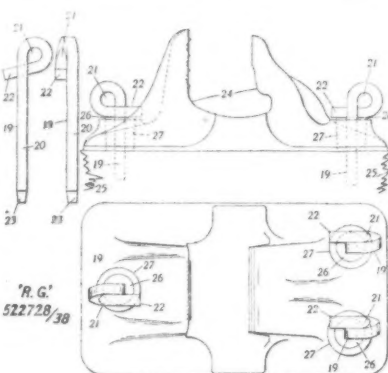
head 6 and an extension of the flange 8 and web 9 of the other rail. Web 3 is reinforced by a "set-off" portion 10. On one side of the rails is an ordinary fish plate 11, and on the other side there is a fish plate 12 which has a recess to receive the reinforcing web 10. Horizontal slots 14 in the webs 3 and 9 are arranged to receive bolts 15 which clamp

the rails between the fish plates 11 and 12.—(Accepted June 12, 1940.)

## 522,728. Dog Spikes

Executors of James Mills Limited, and Allan Macbeth, all of Bredbury Steel Works, Bredbury, near Stockport, Cheshire. (Application date: September 22, 1938.)

A spike 19 is made from spring steel with a shank 20, a loop 21 having a tongue 22, and a taper 23. The spikes are driven in until the tongues 22 bear on wooden bushes 26 fitted into holes 27 in the base of a chair 24, the tapers 23 being driven into the chair 25 until the tongues 22 are horizontal, thus putting considerable tension on the loops 21. In a modified form of spike the upper



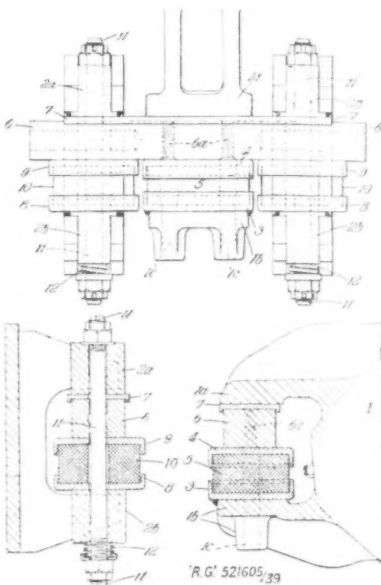
portion of the shank 20 is bent towards the side on which the tongue 22 projects. This type may be used for securing flat-footed rails. In another form the loop 21 is practically symmetrical about the shank 20, and the loop 21 itself may bear on the rail while the tongue 22 may bear on the side edge of the rail. The spike may be modified in several other ways.—(Accepted June 26, 1940.)

## 521,605. Axle-hung Motors

The English Electric Co. Ltd., of Queen's House, 28, Kingsway, London, W.C.2, and Eric Alton Binney, of "Sunnybrook," Curley Hill, Ilkley, Yorkshire. (Application dates: November 21, 1938, and August 30, 1939.)

An electric motor 1 to be hung from a vehicle axle has a bifurcated nose having forks 1a and 1b, and corresponding members 2a, 2b project from a truck frame. Mounted between cups 3, 4 on forks 1a, 1b is a rubber block 5 acting as resilient mounting means between the motor and an intermediate metal bar 6, packing 7 being provided. Between cups 8, 9 on the members 2a, 2b is a rubber block 10 between the bar 6 and the truck frame. Bolts 11

secure these members in place, springs 12 reducing the risk of fracture of the members 2a, 2b. The intermediate member bar 6 moves solidly with the motor in one direction of movement, the block 10 alone acting, whilst in the

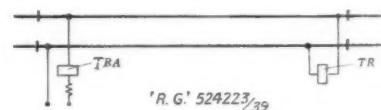


other direction the block 5 alone acts.—(Accepted May 27, 1940.)

## No. 524,223. Signal and/or Points Control

Standard Telephones & Cables Limited, Andrew Brown, and Lionel John Godfrey, all of Connaught House, 63, Aldwych, London, W.C.2. (Application date: January 24, 1939.)

In order to obviate certain possibilities of wrong-side failure in signal and/or points locking equipment controlled by track occupied condition, two sepa-



rate relays—track relay TR and a second relay TRA—are provided, one relay (TR) being operative when the track is empty and released when the track is occupied, and the other relay (TRA) being operative when the track is occupied and released when the track is empty, so that failure of relay TR to operate constitutes a "track occupied" response, and failure of relay TRA to operate constitutes a "track empty" response. For safety the relay TR must be adjusted so that its release condition is considerably less than the maximum train shunt condition. On the other hand, relay TRA may be adjusted to provide a relatively wide margin between its release condition and minimum ballast resistance. The front contacts of relay TRA would be used to provide interlocking

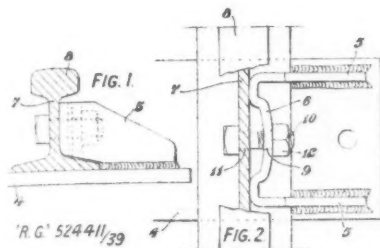
\* These abridgments of recently published specifications are specially compiled for THE RAILWAY GAZETTE by permission of the Controller of His Majesty's Stationery Office. Group abridgments can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, either sheet by sheet as issued, on payment of a subscription of 5s. a group volume, or in bound volumes, price 2s. each, and the full specifications can be obtained from the same address price 1s each.

release in place of the back contacts of relay TR.—(Accepted August 1, 1940.)

#### No. 524,411. Rail Chairs

Thomas Summerson & Sons Limited, and Samuel Summerson Wrightson, all of Albert Hill Foundry, York Street, Darlington, Durham. (Application date: January 30, 1939.)

A rail chair or tie plate has a jaw or lug 5 of channel section secured to the sole plate 4, for instance by welding, and secured to the web 7 of the rail 8

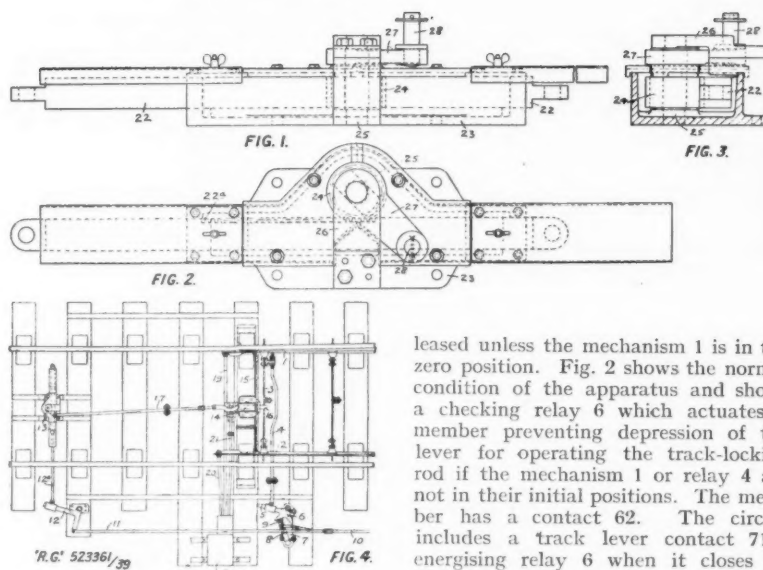


by a bolt 10 passing through an aperture 11 in the web, the portion 6 of the jaw or lug 5 having an outward bend so that only its two end portion contact the web 7, whilst the intermediate portion is spaced from the web and has an aperture for the bolt 10. The nut 12 contacts the cambered portion 6.—(Accepted August 6, 1940.)

#### 523,361. Facing Points

The Railway Signal Co. Ltd., of 40 Broadway, London, S.W.1, Walter Sidney Roberts, of Newby, Ruff Lane, Ormskirk, Lancashire, and Douglas James Orchar Kidd, of Byways, Sefton Drive, Aintree, Liverpool, 10. (Application date: January 3, 1939.)

The point tongues 1, 2 are connected by a stretcher bar 3, and a rod 4 is connected to the tongue 1 and to an arm 5 of a fork member 6 pivotally mounted on a base plate 7 on which an operating lever 8 is also mounted. A roller 9 on lever 8 engages the fork 6 and is connected to point operating rod 10. This rod 10 is extended at 11 beyond lever 8, and is connected to an operating rod 12a for the lock operating mechanism 13, by means of a crank 12. The locking mechanism is housed in a casing 14, and consists of a stretcher bar 15 connected to the tongues, 1, 2, and having two openings, one for the locking bolt or plunger 16 which is connected to the mechanism 13 by a rod 17. The point detector device 18 is operated by rods 19, 20 connected to the tongues, 1, 2, and a rod 21 operated by bolt 16. The lock operating mechanism 13 is illustrated in Figs. 1, 2 and 3, and comprise a rack bar 22 sliding in casing 23, the teeth 22a of the rack bar intermeshing with a pinion 24 carried by a shaft 25 mounted in bearings in casing 23 and bracket 26. Secured to shaft 25 is a crank arm 27 with a pivot pin 28 coupled to rod 17. The locking bolt 16 assumes the same position in both positions of the points and allows

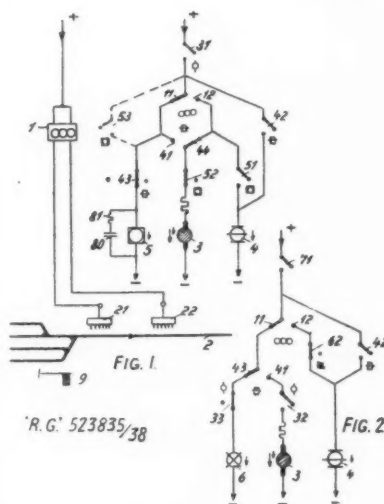


plunger detection to be effected in the usual manner.—(Accepted July 12, 1940.)

#### No. 523,835. Signalling

Vereinigte Eisenbahn-Signalwerke G.m.b.H., of Blockwerk, Berlin-Siemensstadt, Germany. (Convention date: January 21, 1938.)

In a signalling system employing axle counting mechanism 1 operated



by wheel-actuated contacts 21 and 22 on the track 2, and operating contacts 11, 12, for controlling release of the track, a testing relay 4 is associated with the counting mechanism 1 and acts to prevent release of the track following locking thereof until the counting mechanism 1 has operated and returned to zero, and a checking relay device 5 or 6 also associated with the mechanism 1 so as to prevent locking of the track after it has been re-

leased unless the mechanism 1 is in the zero position. Fig. 2 shows the normal condition of the apparatus and shows a checking relay 6 which actuates a member preventing depression of the lever for operating the track-locking rod if the mechanism 1 or relay 4 are not in their initial positions. The member has a contact 62. The circuit includes a track lever contact 71—energising relay 6 when it closes on setting up of a route, provided that contact 11 of mechanism 1 and contact 43 of relay 4 are closed. A locking rod contact 32, on operation of the track lever, prepares an energising circuit for locking-release relay 3, locking-rod contact 33 opening at the same time. The relay 4 controls the track-locking release relay 3 through contact 41. Holding contact 42 of relay 4 short-circuits the contact 12 when the relay is energised. The arrangement of Fig. 1 differs from that of Fig. 2, as is readily seen, and includes a condenser 80 and impedance 81, contact 44 of relay 4, contacts 51 and 52 of relay 5, and locking-rod contact 31. A holding contact 53 may be provided so that relay 5 remains energised until relay 4 is completely energised. The starting signal 9 is controlled by relay 3.—(Accepted July 24, 1940.)

#### COMPLETE SPECIFICATIONS ACCEPTED

522,728. Mills Limited, Executors of J. and A. Macbeth. Dog spikes for securing railway and like rails, or chairs therefor, to sleepers.

523,187. Allen & Sons (Tipton) Limited, W. G., and Butler, R. Contractor-type tipping-wagons.

523,219. Sleigh, H. L., Cheston, A. S., and Oldham, F. A. M. Means for glazing windows of vehicles.

523,350. Raybestos-Belaco Limited, Saunders, W. H., and Lane, D. P. J. Devices for recording the speed, acceleration, retardation, or stopping distance of a vehicle.

523,354. Scoffin & Willmott Limited and Lewin, P. W. Trucks, trollies, and the like.

523,361. Railway Signal Co. Ltd., Roberts, W. S., and Kidd, D. J. O. Facing-points for railways and the like.

523,366. Tyer & Co. Ltd. and Cosserrat, E. W. Apparatus for counting moving objects and especially for counting railway vehicles.

523,421. Bentley, B. J. F. Wooden sleepers for railway permanent-way construction.

## Questions in Parliament

### Railwaymen and Cheese Rations

Mr. A. Woodburn (Clackmannan and Eastern—Lab.), on April 23, asked the Parliamentary Secretary to the Ministry of Food whether he could arrange to add railwaymen to the other categories eligible for a special cheese allowance as their duties required absence from home and inaccessibility to canteens or other food service.

Major G. Lloyd George (Parliamentary Secretary to the Ministry of Food): I have nothing to add to the answer which I gave on this subject to my hon. friend the member for the Isle of Ely (Mr. de Rothschild) on April 2.

Mr. Woodburn: Is the Minister aware that men working on the railway have to be away from home and that there is no possibility of access to canteens? Is it not important that this concession should be extended to railwaymen?

Major Lloyd George: Consideration is being given to the matter.

### War Transport Council

Mr. W. Dobbie (Rotherham—Lab.), on April 30, asked the Minister of Transport, in view of the fact that the War Transport Council was not intended to supersede the Railway Executive Committee or the Transport Advisory Council, which was a statutory body and to which transport problems could be referred, why the Transport Advisory Council was not approached to nominate a representative or representatives to the War Transport Council; and if he would indicate what important problem the newly appointed body would consider upon which the Transport Advisory Council were unable to advise.

Lt.-Colonel J. T. C. Moore-Brabazon (Minister of Transport): The War Transport Council is a small body, the members of which were chosen not as representatives of particular interests but as individuals able to help me in the continuous effort of strengthening the war plans of my department. It is in no sense in substitution for, or replacement of, the Transport Advisory Council, which is a large body of 30 members representing various interests, and which by reason of its size and constitution is not a convenient instrument for the purpose for which the War Transport Council has been set up. The Chairman of the Transport Advisory Council, who is an independent member not representing any particular interest, has been appointed as a member of the War Transport Council.

### War Workers' Facilities

Mr. David Adams (Consett—Lab.), on April 30, asked the Minister of Transport whether, in order to diminish the prevailing traffic congestion which prevented the proper transport of war workers at certain hours, he had considered the desirability of an adjustment in the time of opening and closing of shops and business premises, the transit of whose employees during the

hours indicated was a material cause of the existing traffic situation.

Mr. Oswald Peake (Under Secretary of State for Home Affairs): I have been asked to reply. I have no information showing that transport difficulties would at the present time be substantially relieved by any change in the opening and closing hours of shops and business premises, but if my hon. friend will send me information about any particular case he has in mind, I shall be glad to inquire into it.

## Staff & Labour Matters

### Railway Awards

The hearing before the Railway Staff National Tribunal of the claims for an increase in the special war advance payable to railway staff, commenced at Egginton House, Buckingham Gate, London, on May 6. The composition of the Tribunal was Sir John Forster, Chairman, Sir Charles Bruce-Gardner, nominated by the railway companies, and Mr. J. Hallsworth, nominated by the trade unions. The tribunal was assisted by six assessors, three nominated by the railway companies and three by the trade unions. The railway companies' nominees were Sir William V. Wood, Vice-President, L.M.S.R.; Mr. Kenelm Kerr, Assistant General Manager, L.N.E.R.; and Mr. O. Cromwell, Staff Assistant to the General Manager, Southern Railway. The trade union nominees were Mr. J. H. Potts, President, N.U.R.; Mr. W. J. Cleaver, President, A.S.L.E.F.; and Mr. W. J. Watkins, J.P., M.P., President, R.C.A.

The claims were presented to the Tribunal by Mr. John Marchbank on behalf of the N.U.R.; by Mr. W. P. Allen on behalf of the A.S.L.E.F. and by Mr. C. N. Gallie on behalf of the R.C.A. Mr. G. L. Darbyshire, Chief Officer for Labour & Establishment, L.M.S.R., was the advocate for the railway companies.

The terms of reference were to ask the tribunal to hear and decide the following claims:—

*By the National Union of Railwaymen.*—That the special war advance be increased as from November 25, 1940, by 10s. a week in the case of adult male wages staff (conciliation grades) and by £26 a year in the case of adult male clerical and supervisory staff, together with proportionate increases for females and juniors.

*By the Associated Society of Locomotive Engineers & Firemen.*—That the special war advance be increased as from November 24, 1940, by 10s. a week in the case of drivers, motormen, firemen, and adult engine cleaners, with a proportionate increase for juniors, to be applied on the basis of daily wage rates on the existing wages now payable.

*By the Railway Clerks' Association.*—That the special war advance be increased, as from November 25, 1940, by £26 a year in the case of adult male clerical, supervisory, and other salaried staff and salary equivalent staff, with

proportionate increases for females and juniors.

The terms of reference contained a clause to the effect that the findings of the tribunal on the issue shall be final and binding upon the parties.

## The Institution of Civil Engineers Luncheon

The Minister of Works & Buildings, Lord Reith, proposing the toast of "The Institution" at the annual luncheon of the Institution of Civil Engineers on April 30, gave an outline of the scope of his Ministry which, he said, had an office staff of 9,000 and a field force of 12,000. One of its achievements had been the substitution for the old priority system, with its inconsistencies, of a system of allocation of building work to Government Departments in terms of labour. Whereas building proposals had previously reached a peak far in excess of what the industry could possibly achieve, a reduction to the real capacity of the country—about £350,000,000 a year—had now been secured, and the allocation system was due to come into operation on May 1. The more urgent constructional works would be so manned as to ensure their speedy completion. Building, demolition, clearance, and reconstruction were being controlled by the Ministry.

Sir Leopold H. Savile, the President, replying to the toast, referred to the work of the institution, with particular reference to the war effort, and mentioned the setting-up of an Engineering Advisory Committee, under the chairmanship of Lord Hankey, the formation of which had just been announced. This committee was to advise the Government upon engineering questions connected with the war effort and in particular:—

To consider how the resources of the engineering profession can best be utilised in connection with the war work of Government departments, and to nominate engineers who might suitably be invited to undertake particular tasks.

To suggest means of improving or supplementing the methods adopted by Government departments for utilising engineering science for war purposes.

To advise on problems referred to them in connection with the development of new engineering devices, and to advise on methods of bringing such devices speedily into production, and on means of meeting new war requirements in engineering.

To examine new ideas or devices in engineering likely to assist the war effort, to test their technical validity, and to bring to the notice of the Government those which appear to merit further consideration by the department concerned.

Besides Lord Hankey the committee will consist of Lord Falmouth (Vice-Chairman), Sir Henry Tizard, Mr. J. R. Beard, Dr. A. P. M. Fleming, Mr. B. W. Holman, Dr. C. C. Paterson, Mr. H. R. Ricardo, and Principal A. Robertson. Representatives of Government research establishments and production departments will be associated with the committee as required.



## OFFICIAL NOTICES

## Assistant Engineer

REQUIRED for the Federated Malay States Government Railways for 3 years, with possible permanency. Salary \$400—\$25—\$800 a month (dollar equals 2s. 4d.). A children's allowance is payable where applicable. Free passages, and for wife and family, subject to certain conditions. Candidates age 23-35, must hold a Civil Engineering Degree or have passed the A.M.I.C.E. Examination; and have had experience in the maintenance of railway track.

Write, stating age and full particulars of qualifications and experience, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/9618.

## Th. Buenos Ayres Great Southern Railway Company, Limited

THE Directors of the Buenos Ayres Great Southern Railway Company, Limited, hereby give notice that the Register of Debenture Stockholders of the Company will be closed from Thursday, the 15th May to Thursday the 22nd May, 1941, both days inclusive:—

By Order of the Board,  
N. F. E. GREY,  
Secretary.

Offices of the Company,  
River Plate House,  
Finsbury Circus, London, E.C.2.

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## Notes and News

**L.N.E.R. Mechanical Engineering Department.**—The headquarter offices of the Mechanical Engineering Department of the L.N.E.R. are being transferred at an early date from London to Doncaster.

**Canadian National Railways.**—Gross earnings during March last were \$23,528,006, an increase of \$5,478,382, and operating expenses were \$18,595,941, an advance of \$2,549,304, leaving net earnings at \$4,932,055, or higher by \$2,929,078. Aggregate net earnings from January 1 are \$5,253,605 greater at \$10,691,565.

**Canadian Pacific Railway.**—Gross earnings for March were \$16,620,000, an increase of \$5,142,000 and expenses were \$13,374,000, or \$3,397,000 more. Net earnings at \$3,246,000 were \$1,745,000 higher than for March, 1940. For the first quarter of 1941 gross earnings were \$45,413,000, an increase of \$9,775,000, and the net earnings of \$8,520,000 were \$3,218,000 greater than for the first quarter of 1940.

**The L.N.E.R. Train Fire.**—Colonel A. C. Trench, on behalf of the Minister of Transport, opened the inquiry in London on May 5 into the fire which occurred on the 12.50 p.m. London-Newcastle express on April 28. Six Ampleforth schoolboys, lost their lives and seven others were taken to hospital. Guard Dear said the fire had gone too far for them to use the fire-fighting equipment. Driver Smith was confident that nothing thrown up by the loco-

motive could have caused the fire. Father H. D. Pozzi, one of the college staff, pulled the communication cord and went for fire extinguishers but found the end door of the coach locked. Evidence was given by Mr. T. H. Turner, Chief Chemist, L.N.E.R., that a tin box containing small bottles had fallen from a burnt-out coach, the remains of a good amateur chemical set. A cork might have come out of a bottle and possibly something otherwise quite safe might have started a fire. Colonel Trench decided to continue the inquiry in private.

## Contracts and Tenders

The Jaipur State Railway has placed an order, to the inspection of Messrs. Robert White & Partners, with R. Y. Pickering & Co. Ltd. for 12 Indian railway standard metre-gauge bogie carriage underframes.

The Peruvian Corporation has placed orders for railway general electrical material with the General Electric Co. Ltd. and for drawing office material with W. F. Stanley & Co. Ltd.

Initial capital appropriations by the Canadian Pacific Railway Company for rolling stock this year totalled \$9,730,950, compared with \$13,622,629 in 1940. Appropriations provide for the purchase of 35 Pacific type locomotives, 250 twin-hopper coal wagons, 250 three-hopper coal wagons, 500 box wagons, 150 motor car wagons, 25 conductors' vans, and 25 first class coaches.

## Irish Traffic Returns

IRELAND		Totals for 16th Week			Totals to Date		
		1941	1940	Inc. or Dec.	1941	1940	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass. goods total			No returns to hand			
Great Northern (543 miles)	pass. goods total			No returns to hand			
Great Southern (2,049 miles)	pass. goods total	38,890 55,303 94,193	27,816 52,248 80,064	+ 11,074 + 3,055 + 14,129	561,835 806,245 1,368,080	468,641 710,307 1,178,948	+ 93,194 + 95,938 + 189,132
L.M.S.R. (N.C.C.) (247 miles)	pass. goods total			No returns to hand			

## British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices	
			May 6, 1941	Rise/ Fall
G.W.R.				
Cons. Ord. ....	52	22½	34	+2
5% Cons. Pref. ....	103½	58	96½	+4
5% Red. Pref. (1950) .....	105½	88	103	—
4% Deb. ....	107½	90½	110½	+½
4½% Deb. ....	108½	96½	113	—
4½% Deb. ....	114½	96	116½	+½
5% Deb. ....	124	106	130	—
2½% Deb. ....	66½	57	66	—
5% Rt. Charge ....	117½	97	127½	+½
5% Cons. Guar. ....	117	90½	125½	+½
L.M.S.R.				
Ord. ....	24½	9	12½	+½
4% Pref. (1923) ....	60½	21½	37½	+½
4% Pref. ....	70½	35	56½	+3½
5% Red. Pref. (1955) ....	94½	60	84½	—
4% Deb. ....	101½	81	102½	+½
5% Red. Deb. (1952) .....	109½	102	108	—
4% Guar. ....	93½	65	94½	+½
L.N.E.R.				
5% Pref. Ord. ....	8½	1½	2½	+½
Def. Ord. ....	4½	1½	1½	+½
4% First Pref. ....	60	20	36½	+2½
5% Second Pref. ....	22½	6½	13	+½
5% Red. Pref. (1955) .....	80	34½	62½	+2
4% First Guar. ....	86½	56	83½	+2
4% Second Guar. ....	77½	37	67½	+1
3% Deb. ....	73½	54½	76	+½
4% Deb. ....	97½	74	99½	—
5% Red. Deb. (1947) ....	107	96½	104	—
4½% Sinking Fund Red. Deb. ....	104	98	102½	—
SOUTHERN				
Pref. Ord. ....	79	34	50½	+4½
Def. Ord. ....	22½	7	10	+½
5% Pref. ....	104½	58½	91½	+3
5% Red. Pref. (1964) ....	105	85	100½	—
5% Guar. Pref. ....	116½	90	126	+½
5% Red. Guar. Pref. (1957) .....	114½	94	113½	—
4% Deb. ....	106½	84½	108½	+½
5% Deb. ....	122½	100	128½	—
4% Red. Deb. (1962-67) .....	106	96½	106	—
4% Red. Deb. (1970-80) .....	106½	93	106	—
FORTH BRIDGE				
4% Deb. ....	95½	87	93½	—
4% Guar. ....	93½	81½	91½	—
L.P.T.B.				
4½% "A" ....	116	103	119½	+½
5% "A" ....	121½	107	126½	+½
4½% "T.F.A." ....	105½	101	102½	—
5% "B" ....	116	102	112½	+½
5% "C" ....	65½	24	31	+½
MERSEY				
Ord. ....	26	18½	20½	—½
4% Perp. Deb. ....	92½	86½	92½	—
3% Perp. Deb. ....	68	63	67½	—
3% Perp. Pref. ....	57	50½	53½	—
IRELAND				
BELFAST & C.D.				
Ord. ....	4	3	4	—
G. NORTHERN				
Ord. ....	4½	1½	4½	+½
G. SOUTHERN				
Ord. ....	12½	4	7	—
Pref. ....	15½	6	7	—½
Guar. ....	36	15	19	—½
Deb. ....	55½	40	48½	+½

## Railway Stock Market

Although business in the stock and share markets has remained on a very small scale, the general undertone was reported to be firmer, a good impression having been created by the confidence indicated by the absence of selling pressure despite the acceleration of the war. Towards the middle of the week, security values tended to be marked up; sentiment was influenced by the steps being taken by the U.S.A. to ensure delivery of American war supplies to Britain. A steady tendency was again shown in Government securities, but best prices recently recorded were not fully held. Similar remarks applied to home railway prior charges, which however, were reported to have remained in steady demand in view of the good yields still obtainable. An excellent impression was created in the City by the impending co-ordination of transport and the fusion of the Ministries of Transport and Shipping. There is, of course, no question of any change in financial control of the companies concerned, and these important developments should ensure the fullest possible use of all forms of transport resources in the war effort. When these developments take definite shape there is

every reason to believe that the railways and their stockholders will receive equitable treatment. The view prevails that during the war period the junior stocks can reasonably be expected to receive dividends at least at the minimum rates permitted by the financial agreement with the Government. As pointed out on previous occasions, yields on this basis would be substantial at current price levels. Recognition of this explains the better trend which has developed in the junior stocks, but the latter have not fully maintained best prices made in the past few days, and there is a widespread disposition to await fuller indications as to the intentions of the authorities. Perhaps some time may have to elapse before a full declaration of policy in regard to transport can be made. It is to be hoped, however, that the railway position will be clarified as soon as possible, bearing in mind the lengthy uncertainty that has prevailed as to the future of the financial agreement with the Government.

As compared with a week ago, Great Western ordinary stock has moved up from 32 to 34½; the 5 per cent. preference was two points better at 96½, and the 4 per cent. debentures fractionally higher at 110½. L.M.S.R. ordinary was 12½, compared with 12 a week ago; the senior

preference rallied from 53 to 56½; and the 1923 preference from 36 to 37½. Moreover, L.M.S.R. guaranteed moved up from 93 to 95½, at which the yield is around 4½ per cent., which appears to be attractive, bearing in mind the large margin over interest requirements earned last year. Southern preferred was bought, and on balance has risen from 46 to 50; the deferred was quoted at 10, compared with 9½ a week ago. Southern 5 per cent. preference participated in the better tendency with a rise from 88½ to 92, at which the yield is substantial and exceeds that shown by the equivalent stock of the Great Western. Southern 4 per cent. debentures were one-and-a-half points better at 109. L.N.E.R. debentures experienced steady request, and the guaranteed stocks were better, the firsts having improved from 81½ to 83½, and the seconds from 65 to 67½. Moreover, L.N.E. first and second preference were 36½ and 13 respectively. London Transport "C" stock was fractionally better at 30½. Movements in Argentine and other foreign railway stocks were small and unimportant, and B.A. Great Southern 4 per cent. debentures made the slightly lower price of 39½. Canadian Pacific issues remained under the influence of the rising traffics; the preference stock moved higher to 57.

### Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1940-41	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices					
				Total this year	Inc. or Dec. compared with 1940		Totals		Increase or Decrease		Highest 1940	Lowest 1940	May 6, 1941	Yield % (See Note)		
							This Year	Last Year								
South & Central America	Antofagasta (Chili) & Bolivia	834	27.4.41	£ 19,510	—	£ 440	17	297,110	£ 337,190	—	£ 35,080	Ord. Stk.	11½	3½	4½	Nil
	Argentine North Eastern ...	753	26.4.41	ps. 138,600	—	ps. 5,700	43	ps. 6,261,800	ps. 6,504,700	—	ps. 242,900	6 p.c. Deb.	3½	1	2	Nil
	Bolivar ... ..	174	Apr. 1941	3,912	—	738	18	14,932	16,240	—	1,308	Bonds	6½	5	6½	Nil
	Brazil ... ..	...	...	...	...	...	...	...	...	...	...	8	5	5	Nil	
	Buenos Ayres & Pacific ...	2,801	26.4.41	ps. 1,616,000	+	ps. 126,000	43	ps. 61,195,000	ps. 60,284,000	+	ps. 911,000	Ord. Stk.	4½	1	2	Nil
	Buenos Aires Central ...	190	19.1.41	£ 770,400	—	£ 20,200	29	£ 2,477,400	£ 2,994,900	—	£ 517,500	Ord. Stk.	10½	3	4½	Nil
	Buenos Ayres Great Southern	5,082	26.4.41	ps. 2,325,000	+	ps. 91,000	43	ps. 95,156,000	ps. 102,672,000	—	ps. 7,516,000	Ord. Stk.	8½	2	3	Nil
	Buenos Ayres Western ...	1,430	26.4.41	ps. 1,004,000	+	ps. 96,000	43	ps. 33,096,000	ps. 34,355,000	—	ps. 1,259,000	Ord. Stk.	8½	2	3	Nil
	Central Argentine ... ..	3,700	26.4.41	ps. 2,038,100	+	ps. 297,700	43	ps. 68,734,350	ps. 76,382,950	—	ps. 7,648,600	Ord. Stk.	8½	2	3	Nil
	Do. ... ..	...	...	...	...	...	...	...	...	...	...	Dfd.	4	1	1	Nil
	Cent. Uruguay of M. Video	972	26.4.41	25,857	+	1,677	43	974,407	919,073	+	55,334	Ord. Stk.	3½	14	1½	Nil
	Costa Rica ... ..	188	Jan. 1941	12,498	—	1,138	31	103,411	119,201	—	15,790	Stk.	23½	97½	98	12½
	Dorada ... ..	70	Mar. 1941	12,500	—	700	13	36,700	34,500	—	2,200	1 Mt. Db	99	97½	98	6½
	Entre Rios ... ..	808	26.4.41	ps. 205,000	—	ps. 13,800	43	ps. 9,150,800	ps. 10,250,700	—	ps. 1,099,900	Ord. Stk.	4	1½	1½	Nil
	Great Western of Brazil	1,016	26.4.41	8,400	—	1,700	17	178,600	211,600	—	33,000	Ord. Sh.	4½	1½	1½	Nil
	International of Cl. Amer. ...	794	Mar. 1941	£ 487,887	—	£ 103,925	12	£ 1,444,383	£ 1,762,134	—	£ 317,751	Ord. Stk.	9d.	9d.	1	Nil
	Interoceanic of Mexico	...	...	...	...	...	...	...	...	...	...	1st Pref.	6	4	4	Nil
	La Guaira & Caracas ... ..	22½	Apr. 1941	5,915	—	125	18	24,910	28,015	—	3,105	Ord. Stk.	2½	1½	2½	5½
	Leopoldina ... ..	1,918	26.4.41	20,725	—	1,376	17	401,755	368,940	—	32,815	Ord. Stk.	2½	4	4	Nil
	Mexican ... ..	483	21.4.41	ps. 280,400	—	ps. 2,500	14	ps. 4,918,100	ps. 4,918,000	—	ps. 100	Ord. Stk.	2½	1½	2½	5½
	Midland of Uruguay	319	Mar. 1941	13,106	—	209	39	107,795	94,539	—	13,256	Ord. Sh.	2½	1½	2½	5½
	Nitrate ... ..	386	30.4.41	3,209	—	5,854	18	34,186	65,025	—	30,839	Ord. Sh.	2½	1½	2½	5½
Paraguay Central ... ..	274	26.4.41	£ 2,986,000	—	£ 236,000	43	£ 139,098,000	£ 137,343,000	+	£ 1,755,000	Pr. Li. Stk.	41	36	30½	19½	
Peruvian Corporation	1,059	Mar. 1941	61,029	—	13,709	39	577,986	606,651	—	28,665	Pref.	4	1	2	Nil	
Salvador ... ..	100	8.2.41	£ 29,789	—	£ 4,561	32	£ 435,351	£ 534,567	—	£ 99,216	Ord. Stk.	50	23	31	8½	
San Paulo ... ..	153½	27.4.41	39,000	+	4,211	17	597,375	583,542	—	13,833	Ord. Stk.	15½	1½	2	Nil	
Taitai ... ..	160	Mar. 1941	2,630	—	375	39	25,140	23,135	—	2,005	Ord. Stk.	15½	1½	2	Nil	
United of Havana	1,346	26.4.41	43,388	—	8,399	43	1,018,470	1,053,623	—	35,153	Ord. Stk.	15½	1½	2	Nil	
Uruguay Northern ... ..	73	Mar. 1941	1,166	—	239	39	10,320	9,995	—	325	Ord. Stk.	15½	1½	2	Nil	
Canada	Canadian National ... ..	23,637	21.4.41	1,159,487	+	345,390	16	16,286,902	13,083,886	—	3,203,016	Perp. Dbs.	86	68	92	4½
	Canadian Northern	...	...	...	...	...	...	...	...	...	4 p.c. Gr.	105½	95½	101½	3½	
	Grand Trunk ... ..	...	...	...	...	...	...	...	...	...	Ord. Stk.	9½	4½	8½	Nil	
	Canadian Pacific ... ..	17,153	30.4.41	1,117,600	+	323,600	18	12,413,600	9,536,200	+	2,877,400	Ord. Stk.	99½	71	100	3
India	Assam Bengal ... ..	1,329	30.4.41	45,187	+	6,529	4	135,060	120,437	+	14,623	Ord. Stk.	99½	71	100	3
	Barsi Light ... ..	202	20.3.41	5,302	—	1,950	51	161,595	123,330	—	38,265	Ord. Stk.	283	234	300	5½
	Bengal & North Western	2,086	31.3.41	264,150	—	7,291	26	1,554,747	1,468,050	—	86,697	Ord. Stk.	96	83½	100½	4
	Bengal Dooars & Extension	161	Sept. 1940	14,625	—	508	26	78,405	66,243	—	12,162	Ord. Stk.	108	99	108½	5½
	Bengal-Nagpur ... ..	3,269	31.1.41	302,400	+	29,410	45	7,375,262	6,648,145	—	727,117	Ord. Stk.	104	97½	104½	7½
	Bombay, Baroda & Cl. India	2,986	20.4.41	315,000	—	16,575	3	665,325	596,850	—	68,475	Ord. Stk.	284	238	293	5½
	Madras & Southern Mahratta	2,939	28.2.41	161,100	—	40,513	49	5,624,353	5,347,081	—	277,272	Ord. Stk.	93½	83	98½	4½
	Rohilkund & Kumaon	571	31.3.41	70,950	+	5,404	26	343,151	317,933	—	25,218	Ord. Stk.	93½	83	98½	4½
	South Indian ... ..	2,500	20.2.41	133,540	+	20,609	48	4,069,454	3,620,626	—	448,828	Ord. Stk.	93½	83	98½	4½
Various	Beira ... ..	204	Feb. 1941	71,772	—	—	22	356,533	—	—	—	Pref. Sh.	7/10½	—	—	Nil
	Egyptian Delta ... ..	610	20.2.41	7,423	+	1,979	48	218,640	192,875	+	25,765	Ord. Stk.	88	80	87½	6½
	Kenya & Uganda ... ..	1,625	—	—	—	—	—	—	—	—	—	B. Deb.	53	44½	46½	7½
	Manila ... ..	...	...	...	...	...	...	...	...	...	...	Inc. Deb.	88	80	87½	6½
	Midland of W. Australia	277	Jan. 1941	14,629	+	900	—	105,753	90,657	+	15,096	Ord. Stk.	—	—	—	—
	Nigerian ... ..	1,900	25.1.41	55,111	—	18,846	26	1,788,795	1,602,531	—	186,264	Ord. Stk.	—	—	—	—
	Rhodesia ... ..	2,442	Feb. 1941	460,055	—	—	22	2,388,076	—	—	—	Ord. Stk.	—	—	—	—
South Africa ... ..	13,287	29.3.41	684,849	+	107,642	52	36,257,015	33,681,875	+	2,575,140	Ord. Stk.	—	—	—	—	
Victoria ... ..	4,774	Aug. 1940	888,289	+	190,022	9	1,756,717	1,383,157	—	373,560	Ord. Stk.	—	—	—	—	

Note. Yields are based on the approximate current prices and are within a fraction of ½. Argentine traffics are given in pesos.  
† Receipts are calculated at 1s. 6d. to the rupee